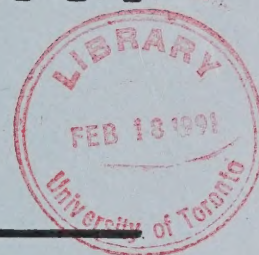


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ENVIRONMENTAL ASSESSMENT BOARD



VOLUME: 289

DATE: Thursday, February 7, 1991

BEFORE:

A. KOVEN Chairman

E. MARTEL Member

FOR HEARING UPDATES CALL (COLLECT CALLS ACCEPTED) (416) 963-1249

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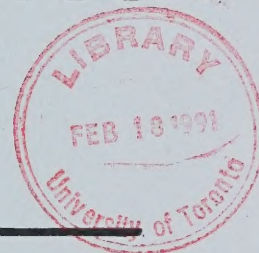
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HEARING ON THE PROPOSAL BY THE MINISTRY OF NATURAL
RESOURCES FOR A CLASS ENVIRONMENTAL ASSESSMENT FOR
TIMBER MANAGEMENT ON CROWN LANDS IN ONTARIO

IN THE MATTER of the Environmental
Assessment Act, R.S.O. 1980, c.140;

- and -

IN THE MATTER of the Class Environmental
Assessment for Timber Management on Crown
Lands in Ontario;

- and -

IN THE MATTER OF a Notice by the
Honourable Jim Bradley, Minister of the
Environment, requiring the Environmental
Assessment Board to hold a hearing with
respect to a Class Environmental
Assessment (No. NR-AA-30) of an
undertaking by the Ministry of Natural
Resources for the activity of timber
management on Crown Lands in Ontario.

Hearing held at the offices of the Ontario
Highway Transport Commission, Britannica
Building, 151 Bloor Street West, 10th Floor,
Toronto, Ontario, on Thursday, February 7,
1991, commencing at 9:00 a.m.

VOLUME 289

BEFORE:

MRS. ANNE KOVEN
MR. ELIE MARTEL

Chairman
Member

A P P E A R A N C E S

MR. V. FREIDIN, Q.C.)	
MS. C. BLASTORAH)	MINISTRY OF NATURAL
MS. K. MURPHY)	RESOURCES
MR. B. CAMPBELL)	
MS. J. SEABORN)	MINISTRY OF ENVIRONMENT
MS. B. HARVIE)	
MR. R. TUER, Q.C.)	ONTARIO FOREST INDUSTRIES
MR. R. COSMAN)	ASSOCIATION and ONTARIO
MS. E. CRONK)	LUMBER MANUFACTURERS'
MR. P.R. CASSIDY)	ASSOCIATION
MR. H. TURKSTRA	ENVIRONMENTAL ASSESSMENT BOARD
MR. E. HANNA)	ONTARIO FEDERATION OF
DR. T. QUINNEY)	ANGLERS & HUNTERS
MR. D. HUNTER)	NISHNAWBE-ASKI NATION
MS. N. KLEER)	and WINDIGO TRIBAL COUNCIL
MR. J.F. CASTRILLI)	
MS. M. SWENARCHUK)	FORESTS FOR TOMORROW
MR. R. LINDGREN)	
MR. P. SANFORD)	KIMBERLY-CLARK OF CANADA
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MR. R. COTTON	BOISE CASCADE OF CANADA LTD.
MR. Y. GERVAIS)	ONTARIO TRAPPERS
MR. R. BARNES)	ASSOCIATION
MR. R. EDWARDS)	NORTHERN ONTARIO TOURIST
MR. B. McKERCHER)	OUTFITTERS ASSOCIATION

APPEARANCES: (Cont'd)

MR. L. GREENSPOON)	NORTHWATCH
MS. B. LLOYD)	
MR. J.W. ERICKSON, Q.C.)		RED LAKE-EAR FALLS JOINT
MR. B. BABCOCK)	MUNICIPAL COMMITTEE
MR. D. SCOTT)	NORTHWESTERN ONTARIO
MR. J.S. TAYLOR)	ASSOCIATED CHAMBERS OF COMMERCE
MR. J.W. HARBELL)	GREAT LAKES FOREST
MR. S.M. MAKUCH)	
MR. J. EBBS		ONTARIO PROFESSIONAL FORESTERS ASSOCIATION
MR. D. KING		VENTURE TOURISM ASSOCIATION OF ONTARIO
MR. D. COLBORNE)	GRAND COUNCIL TREATY #3
MS. S.V. BAIR-MUIRHEAD)	
MR. R. REILLY		ONTARIO METIS & ABORIGINAL ASSOCIATION
MR. H. GRAHAM		CANADIAN INSTITUTE OF FORESTRY (CENTRAL ONTARIO SECTION)
MR. G.J. KINLIN		DEPARTMENT OF JUSTICE
MR. S.J. STEPINAC		MINISTRY OF NORTHERN DEVELOPMENT & MINES
MR. M. COATES		ONTARIO FORESTRY ASSOCIATION
MR. P. ODORIZZI		BEARDMORE-LAKE NIPIGON WATCHDOG SOCIETY

APPEARANCES: (Cont'd)

MR. R.L. AXFORD	CANADIAN ASSOCIATION OF SINGLE INDUSTRY TOWNS
MR. M.O. EDWARDS	FORT FRANCES CHAMBER OF COMMERCE
MR. P.D. McCUTCHEON	GEORGE NIXON
MR. C. BRUNETTA	NORTHWESTERN ONTARIO TOURISM ASSOCIATION

I N D E X O F P R O C E E D I N G S

<u>Witness:</u>	<u>Page No.</u>
<u>ROBERT MULLER,</u> <u>PETER MORRISON,</u> Resumed	51552
Continued Cross-Examination by Mr. Hanna	51552
Cross-Examination by Mr. Cosman	51613

(v)

I N D E X O F E X H I B I T S

<u>Exhibit No.</u>	<u>Description</u>	<u>Page No.</u>
1706	MOE interrogatory question Nos. 1-12 and answers thereto (Panel 7).	51726

1 ---Upon commencing at 9:15 a.m.

2 MADAM CHAIR: Good morning, please be
3 seated.

4 Mr. Hanna?

5 MR. HANNA: Good morning, Madam Chair,
6 Mr. Martel.

7 ROBERT MULLER,
8 PETER MORRISON, Resumed

9 CONTINUED CROSS-EXAMINATION BY MR. HANNA:

10 Q. Dr. Muller, I would like to deal with
11 an issue regarding the availability of information to
12 implement a social cost/benefit analysis.

13 One of the matters that has come before
14 the Board on a number of occasions is the matter of
15 confidentiality of information and proprietary
16 information that may not be publicly available
17 particularly dealing with access roads.

18 I take it you appreciate that concern?

19 DR. MULLER: A. I appreciate that lack
20 of information can make it difficult to conduct a
21 sensible cost/benefit study, yes.

22 Q. I want to put to you the situation
23 that is currently the case in the province where that
24 private information -- the information in terms of
25 private investments and roads is not publicly available,

1 and I want you to imagine that you were put in the
2 situation of having to prepare a cost/benefit analysis
3 under those circumstances.

4 Do you understand that hypothesis?

5 A. Yes.

6 Q. Now, if you were faced with that
7 situation and you were asked to prepare a social
8 cost/benefit analysis, would that be sufficient reason
9 in your view to abandon the approach entirely?

10 A. You mean that I didn't have
11 information on how much money was being spent on roads?

12 Q. Yes.

13 A. And specifically if I were in the
14 Ministry of Natural Resources preparing such an
15 analysis and I didn't have information provided by the
16 Industry on how much they were spending on roads?

17 Q. Yes.

18 A. Well, I think it would obviously be
19 reasonable under those circumstances to insist that the
20 companies give the information.

21 Q. Yes, but by hypothesis is presuming
22 we don't have the information, would that be sufficient
23 reason to abandon the approach in your view?

24 Could surrogate information be used?

25 A. Well, I think obviously any study can

1 be done, as mine was, using surrogate and easily
2 obtainable information. Those studies won't be as good
3 or as useful as ones which use actual information.

4 DR. MORRISON: A. If I might just
5 interject here. According to Exhibit 1029, which is
6 the description of how the Ministry proposes to analyse
7 alternatives with respect to road corridors, they
8 assume that they have access to those cost figures.

9 One of the factors which is considered is
10 the estimated cost of a road.

11 Q. Yes, but that's specifically the
12 point, Dr. Morrison, that the evidence I believe the
13 Board has heard is those are estimates, that there is
14 no mechanism at the present time for the actual costs
15 to be reported to the Ministry.

16 We have estimates -- you have already
17 given in your evidence I believe, Dr. Muller, in your
18 case example estimates of road construction costs. We
19 have those.

20 And my point is simply that the lack of
21 that information is not an argument in itself to
22 abandon the cost/benefit approach that you put forward.

23 DR. MULLER: A. I would agree with that
24 statement, yes.

25 MADAM CHAIR: Excuse me, Mr. Hanna.

1 The Board just wants clarification. Our
2 understanding was that the company information was not
3 available outside the Ministry, but that the Ministry
4 of the Environmnet -- the Ministry of Natural Resources
5 would have access to that information.

6 Mr. Freidin?

7 MR. FREIDIN: I am just asking Mr.
8 Bisshop. I am not sure what the evidence on that was.

9 MR. HANNA: Madam Chair, perhaps while
10 Mr. Freidin is consulting with his advisors --

11 MR. FREIDIN: The Ministry of Natural
12 Resources does not have access to the actual road
13 building costs incurred by the Industry.

14 MADAM CHAIR: Thank you.

15 MR. HANNA: That was my understanding as
16 well, Madam Chair.

17 MADAM CHAIR: Thank you.

18 MR. HANNA: Q. Now, Dr. Muller, I
19 believe it is fair to say from what you have said that
20 as an economist you would recommend that information
21 being made available and on what you know at the
22 present time that would seem a reasonable request?

23 DR. MULLER: A. I agree.

24 Q. Now, in terms of the value of the
25 wood, you had indicated that there are a number of what

1 I will call market failures or market distortions that
2 can lead to inappropriate estimates in that value;
3 correct?

4 A. That's certainly true. I'm not sure
5 specifically where I indicated that, but that is true.

6 Q. Well, for example subsidies.
7 Subsidies, for example, in terms of road building costs
8 may not be reflected in the actual market value of the
9 wood because that is not -- that cost need not be
10 covered in the wood if it is subsidized by the
11 government?

12 A. When I was working out examples on
13 the value of wood, I typically took the position that
14 the value of wood was a residual determined by the
15 value of the product of that wood to the company that
16 was using it and subtracting out the costs that were
17 incurred in harvesting, broadly speaking, harvesting
18 the wood.

19 What you point out is true, that if there
20 is a subsidy paid to the companies for the harvesting
21 or the construction of roads in order to permit
22 harvesting, that would reduce the cost to the company
23 of extracting the wood and, consequently, would raise
24 the private value of the wood for timber purposes to
25 the company.

1 Q. My point is how market prices should
2 be used in a cost/benefit analysis when you know there
3 are market distortions such as subsidies in place?

4 A. I think the case you are referring to
5 is an easy one because in this case we can start with
6 using market prices for the goods and services which
7 are used in harvesting; building access roads,
8 harvesting and then regenerating the timber.

9 We can use market prices regardless of
10 whether the inputs are paid for by the Ministry of
11 Natural Resources or the companies themselves; in other
12 words, in this particular example I think the
13 distortion in decisions is caused by the subsidy and it
14 is relatively easy to apply market prices to correct
15 it.

16 Q. And that's an essential step in your
17 view to estimate a real value of the wood?

18 A. I think it is absolutely an essential
19 step, yes.

20 Q. Now, another thing that has been
21 identified as possibly distorting prices is
22 monopolistic markets. You're aware of that type of
23 effect?

24 A. Yes.

25 Q. In a remote northern area with a

1 limited number of buyers available, specifically with
2 pulp wood where there may be a long distance between
3 adjacent pulp mills, is the selling price of the wood
4 under those circumstances potentially subject to a
5 monopolistic type of distortions in the prices?

6 A. Yes. You are getting into an area
7 which on a theoretical level is extremely important in
8 cost/benefit analysis.

9 In general I think it's true to say that
10 when you are selling to a person who has market power
11 the price you receive for your product is likely to be
12 less than the margin value of the product to that
13 person.

14 What I wanted to do was agree with you
15 that the price of the wood might be lower, but it is
16 also true that the marginal value of labour to another
17 company that might be hiring that labour might be
18 lower. So if you are going to adjust for market power
19 distortions in the output market for wood, you also
20 ought to adjust for market distortions in various input
21 markets.

22 Q. Would you agree that those are
23 important issues that should be considered when wood is
24 being valued and incorporated in a cost/benefit
25 analysis, particularly in more remote areas where there

1 is lower competition?

2 A. I think it is very important to
3 consider them. I also think it is important to start
4 with market values as your first cut.

5 Q. I would like to move now to Exhibit
6 1696. Although I realize Dr. Morrison entered the
7 exhibit, the issue is one I think I would prefer to
8 have you answer, Dr. Muller.

9 I will just use as an example, on page 1
10 of 1696, the third bullet, cut timber, and I believe
11 Dr. Morrison went through and explained that there was
12 a series of steps that needed to be considered such as
13 rotation age and various other factors.

14 Is that fair to say, Dr. Morrison?

15 DR. MORRISON: A. (nodding
16 affirmatively)

17 Q. Now, Dr. Muller, the proposition I
18 would like to put to you is this: Succinctly it is
19 what is the project. Cost/benefit analysis is
20 typically applied to a project or policy; correct?

21 DR. MULLER: A. Correct.

22 Q. I just want to make certain that I
23 understand what you are proposing the project would be.
24 I am going to suggest to you the project is this and
25 then perhaps follow it up with your answer.

1 Would you agree that the project in a
2 timber management plan should in fact be the timber
3 management plan itself which would comprise all of the
4 timber management activities and in terms of
5 alternatives variations in the long-term sustainable
6 yield, variations in rotation yield, variations in the
7 temporal and spacial pattern of the forest, that that
8 as a package and a series of alternative packages would
9 be the project that you would evaluate as opposed to
10 evaluating the rotation individually, the silvicultural
11 treatment individually, the whole gamit of different
12 components that make up the project?

13 A. I fully agree that it is better to
14 evaluate the timber management plan as a unit, as a
15 package rather than to attempt to evaluate the
16 individual component.

17 I think it is even more important to
18 include as your project explicit recognition that there
19 are other services being provided by the forest. So I
20 would prefer to think of the project as managing the
21 forest to maximize the social benefit.

22 Q. Okay. From a process point of view,
23 that's the reason I ask this question then, you would
24 want to see rather than a series of discreet
25 evaluations for different components of the plan, an

1 evaluation of the plan per se which is the project
2 which would include an evaluation of the silvicultural
3 activities, the timber management activities and their
4 implications in terms of timber and non-timber values.

5 That's the conceptual approach that you
6 would want to see put forward?

7 A. I believe that's fair to say.

8 Q. I would like you to turn to the OFAH
9 terms and conditions, Exhibit 1637, page 3, and if you
10 could examine for a moment term and condition 11, 12
11 and 13 and if you could look at the rationales also,
12 and when you are finished let me know.

13 MADAM CHAIR: Is that Roman numeral three
14 Mr. Hanna?

15 MR. HANNA: No, Madam Chair, it is Arabic
16 numbers.

17 MADAM CHAIR: Thank you.

18 DR. MULLER: A. I have had a chance to
19 review the sections which you indicated.

20 Q. Now, one of the issues that the Board
21 has heard evidence on extensively is the long-term
22 consequences of timber management and the broad spacial
23 context within which they take place and I want to
24 examine that from a cost/benefit point of view.

25 Do you understand that?

1 DR. MULLER: A. I think I do.

2 Q. Now, specifically I would like you to
3 look at term and condition 11 (1) which suggests that
4 part of the planning process should look at the
5 ultimate fully managed state of the forest management
6 unit.

7 Now, from a cost/benefit point of view it
8 is important to look a reasonable distance into the
9 future in order to estimate benefits and costs;
10 correct?

11 A. That's correct.

12 Q. And from a cost/benefit point of
13 view, depending upon the discount rate that one uses,
14 changes out 20 years and further may in fact be
15 important although diminishingly important?

16 A. That's true.

17 Q. From a cost/benefit point of view
18 then, is it reasonable to look at long-term
19 implications as part of the analysis beyond the 20-year
20 period?

21 A. Yes. May I just add to that answer
22 for a moment? I completely agree that it is important
23 to consider the end state of the forest. It is also
24 important to realize that the transition to the end
25 state carries the most weight in cost/benefit analysis

1 because of the discounted procedure.

2 So in looking at term and condition No.

3 11, I like the principle, the idea behind it, but I

4 think that the ultimate state may carry not a huge

5 amount of weight in evaluating the transitions.

6 You could do a good job I guess just

7 doing the -- I wouldn't say 2, 3 and 4. I mean, I

8 would say that it would be possible just to look at the

9 effect of one complete rotation without seriously

10 damaging your results, but in principle I think you

11 ought to look at both the ultimate fully managed state

12 and the way in which you get there.

13 Q. And the cost/benefit analysis

14 approach that you proposed is amenable to that type of

15 an analysis?

16 A. I believe so, yes.

17 Q. I would like now to look at Forests

18 for Tomorrow's terms and conditions, that's Exhibit

19 1610, and I would like to look at term and condition

20 92(1)(a) which I believe is on page 71.

21 Are you familiar with that term and

22 condition, Dr. Muller?

23 A. I've read it.

24 Q. As I understand your evidence, you

25 have indicated to us that you should attempt through

1 the social cost/benefit analysis approach to evaluate
2 alternatives and that evaluation should be within
3 certain constraints and the constraints I believe that
4 you identified was sustainability of the forest?

5 A. I would like to be clear that the
6 constraint I identified in the case study was an
7 example of a constraint that you might wish to impose.

8 I believe it would be necessary to
9 consider the possibility or the importance of imposing
10 other constraints as well depending on biological
11 advice and ecological advice.

12 Q. Would you agree that in order to
13 implement those types of constraints in an analytical
14 format that they should be specific in quantitative
15 terms, they must have a specific definition that can be
16 implemented in the analysis?

17 A. We need to be as precise as possible
18 about exactly what we mean by these constraints, yes.

19 Q. Now, the matter I wish to ask you
20 here with respect to 92(1)(a) is, we have this
21 criterion that you have brought forward which is to
22 maximize the net social benefit within these
23 constraints and we have also heard considerable
24 evidence at this hearing about the need for
25 quantitative objectives in timber management plans in

1 terms of resource outputs.

2 I am wondering how you see those two
3 coming together?

4 A. Well, the shortest answer I can give
5 to that is I think that cost/benefit -- social
6 cost/benefit analysis should guide us, should be one of
7 the instruments guiding us in determining the
8 quantitative constraints.

9 Q. There has been considerable
10 discussion at this hearing about objectives and
11 constraints and the reason I'm hesitating is you said
12 the setting of quantitative constraints, you didn't say
13 quantitative objectives.

14 Did you mean quantitative objectives or
15 did you mean quantitative constraints?

16 A. Well, the distinction, I take it, is
17 that a quantitative objective enters into the
18 maximization function and the quantitative constraint
19 enters into the constraint side.

20 Q. Well, that's from a theoretical point
21 of view, I understand what you are saying, but, no,
22 that wasn't the thrust of the type of evidence that the
23 Board has heard.

24 The evidence that the Board has heard is
25 a constraint says you cannot exceed this, an objective

1 says this is what we want to achieve. There's two ways
2 of coming at it. It is more fundamental than I think
3 the discussion you just presented.

4 Can I put it this way to you: If we have
5 a system in place, as you are suggesting, which
6 involves social cost/benefit analysis with certain
7 ecological constraints within which that must operate,
8 is it fair to say that resulting from the selection of
9 the preferred alternative, from the social cost/benefit
10 analysis, that certain resource products would be
11 implied in that analysis?

12 A. Quite probably.

13 Q. Would it be fair then to say that
14 those resource products could be expressed in terms of
15 quantitative objectives that could be produced from the
16 forest management unit?

17 A. To be concrete, are you saying
18 objectives of the sort we should produce so many cubic
19 metres of roundwood by the year 2020?

20 Q. And so many wilderness recreation
21 days, et cetera.

22 MR. HANNA: Madam Chair, I don't know
23 what your preference is here. I am quite prepared to
24 have Dr. Muller and Morrison discussion on the record
25 if it is going to help you at all. I will leave it up

1 to the witnesses, but it may be useful if the
2 discussion is appropriate.

3 MR. COSMAN: It should be, Madam Chair.
4 Witnesses shouldn't be whispering to each other.

5 DR. MULLER: Is that true? I am --

6 MS. SWENARCHUK: It has been the case in
7 this hearing that witnesses are being permitted to
8 discuss answers to questions privately.

9 MADAM CHAIR: We have had not strictly
10 formal rules, but normally Dr. Morrison would be free
11 to offer his opinion and to jump in whenever he wants.

12 DR. MORRISON: Okay.

13 DR. MULLER: Fine. For the record, Dr.
14 Morrison was suggesting to me that, in my words, it
15 depends partly on the objectives, the way the
16 objectives of the cost/benefit analysis are framed.

17 DR. MORRISON: Actually it was the way
18 that the alternatives in the timber management planning
19 process are framed.

20 If you have an alternative that's framed
21 in terms of maintaining a mill, for example, and
22 maintaining a specific level of employment, that may --
23 that objective or that particular goal could be
24 achieved by a varying mix of resource products.

25 One doesn't necessarily have to tie it

1 back to a production of a certain number of cubic
2 metres or in the case of recreation a certain number of
3 hunter days, for example.

4 MR. HANNA: Q. Dr. Muller, just
5 before -- I want to make sure we are not off on a
6 tangent here because we are talking at cross-purposes
7 here.

8 When I speak of an alternative, I want to
9 make sure that both of you witnesses to understand
10 clearly what I mean by an alternative. Alternative in
11 my view is an alternative suite of silvicultural
12 activities leading to alternative forest structures,
13 both in time and place. An alternative in my lexicon
14 would not be keeping a mill in operation, it would be
15 an alternate forest structure, associated with that an
16 an alternate suite of silvicultural activities.

17 DR. MULLER: A. I am comfortable with
18 that.

19 Can I add to what Dr. Morrison said with
20 the following general statement. If this were the best
21 of all possible worlds and we have full information
22 about people's preferences with respect to everything,
23 then it would probably not be necessary to have very
24 many constraints on the choices of alternatives and we
25 could just say, let's maximize net present value.

1 That assumes that we have a great deal of
2 information and of course we don't have it and,
3 therefore, I think as a matter of practical analysis we
4 have to be prepared to rule out certain alternatives
5 which appear to maximize net present value because they
6 don't take into account things which have been judged
7 to be important.

8 Now, in particular I suppose you can talk
9 about quantitative targets on wilderness area or
10 quantitative targets on hunter days of recreation as
11 being necessary -- constraints which are necessary
12 because we don't have sufficient information about the
13 desirable level.

14 What I wanted to stress was, it seems to
15 me that you can -- that these kinds of quantitative
16 constraints are most necessary in the case of broad
17 public goods like amount of old growth forest within
18 this area, which are hardest to measure according to a
19 generally agreeable scheme, and they're least important
20 in the context of roundwood production and we have good
21 market evidence on how much wood is being demanded.

22 The issue of the appropriate number of
23 hunters days seems to me to lie in between there
24 because we can -- the number of hunter days or fishing
25 days is the kind of thing which is amenable to

1 evaluation a bit more easily perhaps than those broader
2 ecological objectives that I spoke of.

3 Q. I would like to move to a different
4 subject this time and that is the matter of willingness
5 to pay versus willingness to accept.

6 Could you explain to the Board the
7 difference between those two terms?

8 A. I can do my best.

9 MADAM CHAIR: I think the Board
10 understands pretty clearly what willingness to pay is.

11 What is willingness to accept?

12 DR. MULLER: Well, I think it is usually
13 best to consider these things in the context of a
14 specific example.

15 So let's suppose that the change we are
16 envisaging is wiping out -- sorry, that's a loaded
17 term. Suppose the change that we are considering is
18 cutting down the remaining old growth forests in a
19 large area of the province. There are two questions
20 you might ask a person. One is, how much money would
21 you be willing to pay to avoid that cutting down; that
22 is, how much would you be willing to pay to avoid
23 seeing that area of old growth harvested, and that's,
24 roughly speaking, what is meant by willing to pay.

25 The other question you might ask is:

1 What amount of money could we give you that would
2 compensate you for the loss that you would incur when
3 the old growth forest is cut down, and that's
4 willingness to accept compensation.

5 So potentially, at least the answer --
6 potentially and in practice the answer to these
7 questions are often very different. Willingness to
8 accept means willingness to accept compensation and
9 willingness to pay means willingness to pay to prevent
10 a change from happening.

11 In my particular example I have referred
12 to changes which make a person worse off.

13 MR. HANNA: Q. Sorry?

14 DR. MULLER: A. In my particular example
15 I referred to a change which makes a person worse off.

16 Q. Now, you mentioned that on occasion
17 or frequently that the willingness to pay and
18 willingness to accept are not exactly equal, although
19 is it not fair to say that in theoretical economic
20 terms they should be equal?

21 DR. MULLER: A. It's fair to say that
22 this is a fascinating area of research in both the
23 areas of economics and social psychology and that there
24 is a great debate going on about how you should view
25 this difference.

1 And it's true that conventional economic
2 theory as familiar to most graduate school students in
3 economics predicts that for medium changes willingness
4 to accept and willingness to pay should be really quite
5 close.

6 It is also true that emperical evidence
7 shows that quite often people act as if they are really
8 quite far apart.

9 Q. And from the empirical, from
10 practical and actual case, which generally is higher,
11 the willingness to pay or the willingness to accept?

12 A. Willingness to accept.

13 Q. Now, would you agree that the
14 appropriate measure is not simply a theoretical issue,
15 but is also a primary public policy issue in terms of
16 property rights and ownership?

17 A. I'm sorry, could you rephrase that?

18 Q. Let me give you a specific example.
19 If I owned a house, perhaps the kind of example that
20 Mr. Martel was talking about, and I was trying to
21 compensate the miner for his loss in his house, I could
22 go in and say how much are you willing to pay to keep
23 your house, or I can go in and say how much are you
24 willing to accept for your house?

25 A. That's correct.

1 Q. And normally in our society in that
2 circumstance you would use willingness to accept.
3 That's how the market works?

4 A. If you --

5 Q. The buyer --

6 A. Yes, if you own the house.

7 Q. So there is an ownership issue in
8 terms of which is the appropriate measure?

9 A. That's correct.

10 Q. So in deciding what is the
11 appropriate measure in timber management there is a
12 primary issue to be resolved in terms of who has
13 primary rights to the resource; the forest industry,
14 the other users, the Crown, et cetera?

15 A. I think that's fair to say. I think
16 also it is fair to say there are some comments on
17 property rights as important in our witness statement
18 and there is a fascinating little discussion in the
19 book that I referred to using surveys to value
20 contin -- public goods which addresses some of these
21 questions that you are raising.

22 Yes, it is true that the distribution of
23 property rights will affect our decision about which is
24 the appropriate -- seems to be the appropriate measure
25 to use.

1 Q. Now, in the absence of a clear
2 determination of those issues at the present time,
3 would you agree that it would be a prudent approach to
4 not only estimate willingness to pay, but estimate
5 willingness to accept as a routine measure in order to
6 provide some understanding of the variation between
7 those two estimates?

8 A. I think as a general principle, yes.
9 I think it is also important to realize that
10 willingness to -- I gather, I don't conduct myself
11 willingness to pay experiments, but I read in the
12 literature that the frequency with which people refuse
13 to respond to a willingness to accept question is quite
14 a bit higher than the frequency with which they are
15 willing to respond to a willingness to pay question.

16 So that what you are suggesting is
17 perhaps desirable, but it won't always be possible
18 because the willingness to accept -- people seem to
19 have a harder time accepting the willingness to accept
20 premises than they do having to accept the willingness
21 to pay premises.

22 If the direction of your question is,
23 should we try to contribute to the understanding of the
24 differences between willingness to accept and should we
25 be aware of the degree which they are different in the

1 of context of forest management, my answer is, yes, it
2 is a good idea and yes, we should do it as long as the
3 costs of doing it aren't too high.

4 Q. Now, I would like to ask you
5 regarding the matter of collecting information and the
6 costs associated with that.

7 Have you examined any of the resource
8 data conventionally collected by the Ministry of
9 Natural Resources that might be used to estimate
10 willingness to pay or willingness to accept?

11 A. No, I have not.

12 Q. I would like now to speak about
13 social discount rates. You are familiar with that
14 term?

15 A. Yes, I am.

16 Q. Could you explain to the Board the
17 difference between a social discount rate and what
18 might be considered a financial discount rate?

19 A. Well, simply, the social discount
20 rate is the rate at which -- the rate of interest that
21 you should use in discounting benefits and costs for
22 the purposes of public policy.

23 The financial rate is the one that you
24 observe in financial markets.

25 There are the reasons to believe that the

1 social discount rate may not be a -- there are reasons
2 to believe that the market rate of interest may not
3 correctly reflect the social discount rate.

4 One of the most obvious things -- and I
5 am not sure if this is all going to be evident to the
6 Board. One of the most obvious things is that social
7 discount rates are usually expressed as real discount
8 rates; that is, discount rates after allowing for the
9 effects of inflation.

10 Roughly speaking, the real discount rate
11 is the difference between a financial interest rate and
12 the current rate of inflation.

13 So one of the most obvious differences is
14 that financial market rates right now are up around 12
15 per cent or so and the real discount rate, depending on
16 the kind of world you are talking about -- real
17 discount rates we usually talk about is 5 per cent or
18 maybe 10 per cent.

19 Q. And the real discount rate may not be
20 equal either to the social discount rate?

21 A. The real discount rate may not be
22 equal to the social discount rate. That is the real
23 discount rate that we estimate from financial markets.

24 The real rate of interest that we
25 estimate from financial market and the current rate of

1 price inflation may not be the same as the social rate
2 of discount that we wish to apply to public projects.

3 Q. And it is a social discount rate that
4 you feel would be the appropriate measure to use in the
5 evaluation of timber management plans?

6 A. Yes, although I also believe it is
7 very important to conduct sensitivity analysis.

8 Q. Would you agree that the social
9 discount rate should be applied uniformly within, for
10 example, the area of the undertaking? It is not
11 something that you expect to vary by forest management
12 unit by forest management unit?

13 A. Yes, very definitely.

14 Q. So it is fair to say that that
15 decision can be made at a provincial level or at a
16 class environmental assessment level?

17 A. I think it is fair to say it can be
18 made at the provincial level. I'm not sure that it
19 would be appropriate to consider separate social
20 discount rates for different class environmental
21 assessments.

22 Q. Fine. Have you a specific
23 recommendation to make in terms of what is an
24 appropriate social discount rate for the province at
25 the present time?

1 A. My reading of the literature is that
2 as of the early 1980's attention was focused around a
3 social discount rate of around 7 or 8 per cent. The
4 Treasury Board recommends a social discount rate of 10
5 per cent with sensitivity tests at 5 and 15 per cent.

6 My recommendation is that you should
7 consider for your base case somewhere between 5 and 10
8 per cent.

9 Q. I would like to discuss the matter of
10 distributional issues and cost/benefit analysis. You
11 are familiar with that matter?

12 A. Yes.

13 Q. Now, the basic premise of the
14 cost/benefit analysis approach is that the winners can
15 compensate the losers and still be better off; correct?

16 A. That's the way it is conventionally
17 portrayed, yes.

18 Q. Now -- and I believe Mr. Martel
19 discussed this to some extent with you. That may be
20 the theory, but there may be a problem in practice in
21 the compensation actually taking place.

22 There is no guarantee in cost/benefit
23 analysis that the compensation will take place?

24 A. That is true.

25 Q. Is it true that one of the

1 difficulties that are faced are things such as
2 transaction costs and lack of markets for the
3 transactions to take place?

4 A. Which specific transactions are you
5 referring to?

6 Q. The example that I think Mr. Martel
7 was talking to you about in terms of the miner and his
8 house, somebody gaining by that I think was your
9 suggestion in your discussion with him, but the gainer
10 isn't compensating him for his loss that he has felt,
11 although there may be an overall benefit in the way
12 that you have described it within the economy.

13 MADAM CHAIR: I think Mr. Martel's main
14 point was there isn't enough money in the Treasury of
15 Ontario to compensate residents of northern Ontario for
16 all economic downturns or bad experiences they might
17 have.

18 DR. MULLER: I think that's probably
19 true. It is particularly true in view of the point
20 that Mr. Hanna was raising about willingness to accept,
21 where willingness to accept compensation is often, if
22 anything, quite a bit bigger.

23 So if we were to give enough money to
24 compensate everybody -- if we were to compensate
25 everybody in the economy for every negative change that

1 occurred to them because of variations, because of
2 changes in provincial actions or changes in the
3 economy, I think it is fair to say we would be
4 paralyzed; we would never do anything.

5 MR. HANNA: And so --

6 MR. MARTEL: Could I ask a question?

7 MR. HANNA: Certainly.

8 MR. MARTEL: And at one time it was
9 considered -- or government came close to deciding that
10 maybe it was time that society carefully analyse what
11 the effect of shutdowns were in terms of a whole town
12 and who picks up the costs.

13 You shut down an operation, and it
14 doesn't matter whether it is southern Ontario, quite
15 frankly, or northern Ontario, society picks up all the
16 costs; unemployment insurance, welfare, hospital costs
17 go up because people use more hospitals because they
18 have more breakdowns, there are alcoholic effects,
19 there are all kinds of social costs.

20 To your knowledge, has anyone ever
21 attempted to do that and determine whether or not it
22 would be worth -- or much more advantageous to keep an
23 operation alive than to pick up the social costs which
24 I hear people say: Well, let it close down, it doesn't
25 make a profit, but in the overall cost of society has

1 anyone ever attempted to find out which is the most
2 costly, cost of society or the cost of keeping it
3 going?

4 One might look at some northern Ontario
5 town because, as I say, the difference. The only
6 difference really is in southern Ontario you can get a
7 job somewhere else, or you used to be able to, in
8 northern Ontario you have to walk away from your house.

9 DR. MULLER: The question you pose I
10 believe is a legitimate one. I can't refer you to any
11 specific studies which I had read, recently anyway. I
12 do think that there is some discussion of the economics
13 of single-industry towns.

14 Dr. Morrison, have you any...

15 DR. MORRISON: I can't think -- I am not
16 aware of any specific study, but clearly that kind of
17 analysis is being done at least at a crude level when
18 governments steps in to try and ensure an industry
19 remains viable.

20 DR. MULLER: Can I say that there really
21 seems to be three alternatives posed in the case that
22 you think of.

23 I think one is "shutting" the town down
24 and letting the chips fall where they may, sort of
25 speak, letting the workers -- or the residents of the

1 town bear all or most of the costs.

2 Another possibility is to try to keep the
3 industrial base of the town afloat by making payments
4 to the firms which run the town -- sorry, not run the
5 town, sorry.

6 MR. MARTEL: Well, that's been known to
7 happen too, the odd company town.

8 DR. MULLER: Alternatively you might want
9 to try to make direct payments to the residents of the
10 town and either make the payments so that they can
11 continue operation or else make it -- if not equally
12 happy for them, at least not catastrophic for them to
13 make the adjustment.

14 I just wanted to make sure that you
15 weren't saying the alternatives are either to subsidize
16 an industry which is running into financial
17 difficulties or to let the workers suffer. I think
18 there are intermediate cases.

19 MR. MARTEL: My amazement isn't which one
20 you should accept, is the fact that it has never been
21 done carefully, to my knowledge, in trying to estimate
22 what the real cost to society as a whole are for that
23 sort of total dislocation of a community.

24 One might think, for example, of the
25 little Municipality of Burwash which was a correctional

1 institute with about 150 families, just totally walked
2 away from it. It was a nightmare. People had jobs to
3 go to in most instances, but what it did to that
4 community was quite devastating emotionally,
5 physically, the cost of the infrastructure and just
6 shut it down.

7 DR. MULLER: Mr. Martel, I would be
8 delighted to participate in a study team of this kind.

9 MR. MARTEL: I will keep that in mind.

10 MADAM CHAIR: That's the next problem.
11 Mr. Martel doesn't like government studies.

12 DR. MORRISON: Actually what you have
13 done is reminded me of a study that considered the
14 mining industry in Ontario. It was done some time ago
15 by Boadway and Treddenick and at Queen's University or
16 a study which Queen's University published which is the
17 impact of the mining industries on the Canadian
18 economy.

19 And one of the things that they attempted
20 to do in that study was to assess what the consequences
21 would be of shutting down the mining industry, and they
22 concluded that over the long-term there would be a
23 minimal impact on the Canadian economy from doing that.

24 MS. SWENARCHUK: Mr. Martel, I don't know
25 if you want my assistance on this. I can just tell you

1 that the studies that I have seen on that kind of
2 subject were studies done from the social impact side
3 by, for example, National Action Committee on the
4 Status of Women and women's groups in various parts of
5 the countries have been those kinds of problems that
6 they face. Those aren't formed by university
7 professors of economics as far as I know.

8 MADAM CHAIR: Mr. Hanna?

9 MR. HANNA: Q. Back to the issue, Dr.
10 Muller, about distribution. There are two points that
11 came up in discussion that I would like to deal with.

12 First of all, Madam Chair indicated that
13 one view is that there is not enough money in the
14 Ontario Treasury to compensate the losers.

15 Implicit in that is the suggestion that
16 the gainer is the Ontario government and, therefore,
17 they have to be the ones compensating. It may be in
18 fact, would you agree, that the winner may in fact not
19 be government but may be some private individual or
20 company and, therefore, that money will not be in the
21 Ontario Treasury to compensate the loser and that's the
22 reason there is not enough money in the treasury to
23 compensate?

24 A. Why there is not enough?

25 Q. Yes.

1 MADAM CHAIR: Could you repeat that, Mr.
2 Hanna? We just lost it.

3 MR. HANNA: I am trying to do three
4 questions in one, Madam Chair. I will take it one at a
5 time.

6 Q. Dr. Muller, yes and nos will help
7 make this go a little faster.

8 Maybe I will come at it from a different
9 perspective. In terms of the winners and the losers,
10 the question is not whether there is adequate resources
11 to compensate them, but whether the transaction takes
12 place? Implicit in your analysis isn't that the
13 resources are there?

14 DR. MULLER: A. Implicit in the entire
15 cost/benefit framework is that if a project is worth
16 undertaking and if it's possible costlessly to transfer
17 money from one person to another, then the money, so to
18 speak, is there; that is, the winners could in fact
19 compensate the losers.

20 And you are quite correct to point out
21 that it's not fully consistent with this framework to
22 view the Ontario government as being the winner and
23 having to undertake the loser. The role of the
24 government might to extract the money from the winners
25 and pay it to the losers.

1 Q. That's the exactly the point of the
2 next question I was going to put to you. In terms of
3 the role of government in terms of distribution, do you
4 see the role of government being to understand the
5 distributional effects, to make a social policy as to
6 what the appropriate distribution of compensation is
7 and to effect that through government policy?

8 A. I think that's basically the role. I
9 want to qualify that by saying that many economic
10 analysts suggest that overall questions of income
11 distribution can usefully be separated from the
12 allocative effects of individual projects.

13 So that many people suggest it is more
14 useful to look at the distributional consequences of
15 the entire tax and expenditure system rather than
16 looking at focusing on the distributional consequences
17 of one particular unit.

18 Q. And that comes to the next question.
19 That was your statement about we would be in state of
20 the paralysis. If for every benefit and gain we have
21 to compensate across society we would be paralyzed
22 because there would be so much -- every time I breath I
23 am taking advantage of a public good you're not, you
24 might not breath at the same time and so we have to
25 compensate each other.

1 That's an extreme, extraordinary example,
2 but that was the essence of what you are saying?

3 A. Yes. In fact, I had a colleague once
4 who made a great gain saying that every state is prey
5 to optimal, every state is fully efficient because if
6 it was possible to improve it the improvement would
7 have already occurred.

8 Q. Now, back to your comment about the
9 fact that rather than to look at the allocational issue
10 on an independent project basis, you would look at it
11 across the whole economy as a whole.

12 A. I'm sorry, did you mean
13 distributional issue?

14 Q. Yes.

15 A. I think you said allocational.

16 Q. Well, you have mentional
17 allocational; in other words, allocation of the
18 revenues that government obtains and then allocates to
19 various segments of society.

20 The question I ask you is: In the case
21 where there are non-marginal changes in terms of the
22 welfare of an individual, the welfare of a community,
23 the example that Mr. Martel gave you in terms of
24 Burwash, in those particular circumstances it may be
25 worthwhile, may in fact be important to not simply look

1 at it from a province-wide level, but to look at it
2 from a project level where it is non-marginal change?

3 A. Yes.

4 Q. And that's the important issue in
5 cost/benefit analysis, why the Treasury Boards sets out
6 that you should have a table of distributional effects
7 particularly where there are certain segments of the
8 economy that may be affected in a non-marginal way?

9 A. Yes.

10 Q. In terms of timber management plans,
11 would you agree that there will be circumstances
12 whereby those types of effects are none-marginal and
13 that there will be distributional effects that are of
14 sufficient magnitude that that will be an issue that
15 should be examined?

16 A. I will agree that that's highly
17 likely. I want to continue to reiterate that I think
18 it is important to start somewhere and it is important
19 to start with the financial analysis involving current
20 market prices.

21 In other words, I wouldn't like the
22 statement that important distributional effects have to
23 be considered to lead us to a position which says you
24 don't do a simple analysis in the first place.

25 Q. My point is simply one of reporting,

1 that reporting even the simple case, a simple reporting
2 of distributional effects would be a responsible and
3 reasonable part of a cost/benefit analysis?

4 A. Yes, although I also refer you to the
5 comments about the rapidity with which the cost of
6 such -- reporting such distributional effects lies as
7 you try to break them down more finely.

8 Q. And that's an issue without the
9 analysis that you presented?

10 A. Yes.

11 Q. You have to use some degree of reason
12 as to the level of detail and analysis that you apply
13 based upon the type of the circumstance you are
14 involved with, the types of impacts you are affected
15 with and a whole variety of other circumstances you
16 want to consider?

17 A. Yes, but I do believe it is incumbent
18 on people to try to do something with the
19 distributional --

20 MADAM CHAIR: Are you suggesting, Mr.
21 Hanna, that by reporting distributional effects for a
22 timber management plan that when you do a cost/benefit
23 analysis that you would say, if harvesting is approved
24 in this area the distributional effect would be the
25 costs on hunting, fishing, recreation?

1 Would you consider that a distributional
2 effect, or are you staying you decided not harvest an
3 area that the cost -- the distributional effects would
4 be on employment or some other community effect?

5 MR. HANNA: The simple answer is yes,
6 Madam Chair. I won't get into all the nuances of it at
7 this time, but that will be in our evidence, but yes.
8 In essence, yes.

9 MR. MARTEL: What is worrying me -- maybe
10 it is just clarification. I think Dr. Muller has said
11 repeatedly that cost/benefit analysis should be kept
12 fairly simple.

13 As I listen, it seems to be mounting, the
14 numbers of things that are going to be entered into it
15 and I am wondering what size of computer we are going
16 to need, if I am right in listening to what you are
17 suggesting should be part of it -- is it going to be so
18 complex that you will never get to the end of it?

19 MR. HANNA: Perhaps I can ask the
20 question of Dr. --

21 MR. MARTEL: I am looking for
22 clarification.

23 MR. HANNA: I will give you
24 clarification.

25 MR. MARTEL: It just worries me. How

1 many factors can we enter into it and come out with --

2 MR. HANNA: I will tell you my client's
3 position on it, Mr. Martel.

4 My client's position is this, that the
5 level of analysis should be commensurate with the
6 difficulty in reaching a decision, how -- if there is a
7 clearly superior alternative that doesn't require
8 extensive analysis, then you don't do extensive
9 analysis.

10 Likewise, if the difference between the
11 two alternatives has minor consequences in terms of the
12 outcome, you don't do a lot of analysis.

13 If, however, the difference between
14 alternatives is difficult to discern and what is at
15 risk or what the difference, the value of what it is
16 you are involved in is great, then the level of
17 analysis should be consistent that.

18 Just as an example, perhaps this is
19 somewhat off the wall, but it's a standard practice
20 with engineers and architects, I don't think it is
21 legal with lawyers, to charge their services on a
22 percentage basis. We have the same similar type of
23 principle I would suggest is appropriate here, that
24 there is a certain percentage of our resources that we
25 can allocate, that we should allocate to making good

1 decisions, but if the cost of making a decision is 50
2 per cent of the value, then I don't think you will --
3 certainly my client won't support that type of an
4 approach.

5 I think you have to measure it according
6 to those criterion and that will be the evidence that I
7 will be bringing forward to you.

8 Q. Dr. Muller, would you be in -- I know
9 that's a long statement. The general principle --

10 DR. MULLER: A. I am in sympathy with
11 the general principles that you stated.

12 Q. Is that consistent with the
13 recommendations that you are making to this Board as an
14 expert economist?

15 A. I believe so.

16 Q. I would like to move to -- Madam
17 Chair, what time are we going to have a break?

18 I have one more general topic and then I
19 have three terms and conditions of FFT that I want to
20 deal with and I will be finished. I expect it is
21 probably going to take me another 15, maybe 20 minutes.

22 If you want I will continue now and we
23 can then rearrange after the break, it's up to you.

24 MADAM CHAIR: Yes, we will do that, Mr.
25 Hanna. Go ahead.

1 MR. HANNA: Q. Dr. Muller, we spoke
2 yesterday about the matter of risk and uncertainty. Do
3 you remember that?

4 A. Yes.

5 Q. And I believe you were asked an
6 interrogatory on this matter by the Ministry of Natural
7 Resources. It is interrogatory No. 24.

8 Madam Chair, I haven't made copies of
9 this, but I am prepared to make copies and to circulate
10 them if you want to set aside an exhibit number for it.
11 I'm not sure -- we talked about a package of
12 interrogatories

13 -- MADAM CHAIR: Do we already have that,
14 Ms. Swenarchuk?

15 MS. SWENARCHUK: You have it in your
16 package. It has not been made an exhibit.

17 MADAM CHAIR: Which package?

18 MS. SWENARCHUK: The package of the
19 complete interrogatories that were provided to the
20 Board which I asked asked Mr. Pascoe to have available
21 to you. They have MNR's questions and answers in them.
22 I think I have an extra copy here.

23 Mr. Pascoe is saying they are in your
24 box.

25 MADAM CHAIR: Thank you. These are the

1 answer to interrogatory No...

2 MR. HANNA: Twenty-four, Madam Chair, of
3 the Ministry of Natural Resources.

4 MADAM CHAIR: Thank you.

5 MR. MARTEL: Is that the one about
6 insects?

7 MR. HANNA: Yes.

8 MADAM CHAIR: I have got the question not
9 the answer.

10 MS. SWENARCHUK: The answers following
11 the question.

12 MADAM CHAIR: Not in the copy I have. I
13 am sure Mr. Pascoe is going to find it for us when we
14 are finished, but go ahead, Mr. Hanna.

15 MR. HANNA: Madam Chair, perhaps just in
16 the interest of time I will read the question and that
17 will assist you.

18 Q. It is referring to your witness
19 statement, I believe, Dr. Muller, on pages 91 to 92 and
20 the quote is:

21 "In the calculation of the MAD, no
22 reduction appears to be made for insects
23 or fire. The implicit assumption is that
24 fire and insect attack are completely
25 unpredictable. This introduces a bias

1 against more environmentally benign
2 procedures."

3 The question is:

4 "Do the witnesses agree that the specific
5 location and extent of fire and insect
6 attack are unpredictable."

7 And question (b) is:

8 "Please list the more environmental
9 benign procedure for protection which are
10 being referred to here."

11 It is section (a) of question (a) that I
12 would like to deal with.

13 Now, from a cost/benefit analysis point
14 of view you have indicated that one way to deal with
15 risk is through expected values; correct?

16 DR. MULLER: A. That's correct.

17 Q. Now, in terms of the MAD approach,
18 would it be reasonable in your view to take an expected
19 yield based upon no allowance for insects and fire and
20 other natural disasters or natural interventions and to
21 estimate a predicted or an expected loss associated
22 with those and use that as a basis to moderate your
23 projections of future yield?

24 A. That seems entirely reasonable to me.

25 DR. MORRISON: A. I might point out that

1 in fact that has been done in British Columbia where
2 growth and yield models have incorporated the effects
3 of insect and fire and there has been extensive
4 research work on the appropriate way of including that
5 in the economic analysis.

6 Q. And if that type of approach were
7 employed, does that in any way require the specific
8 location and extent of fire and insect attack to be
9 predicted in a deterministic way or is it like an
10 insurance policy?

11 DR. MULLER: A. If I understand your
12 question correctly, it is not necessary to predict the
13 exact location of an insect attack in order to account
14 for the expected value of insect losses in the way you
15 have just outlines.

16 Q. Would you agree that our level of
17 prediction, as it becomes important, we can use that
18 expected value approach to incorporate things such as
19 stand type, age, past history, access; a whole variety
20 of factors that might influence the expected incident
21 of those natural interventions?

22 We can refine the expected value using
23 those variables?

24 A. I think that's a fair statement.

25 Q. And that's conventional approach from

1 a -- strictly from a calculational perspective, it's
2 not a complicated exercise to get involved in from a
3 calculational procedure?

4 A. In terms of calculation, no; in terms
5 of determining the probablities, yes.

6 Q. And one of the arguments that might
7 be brought forward in terms of estimating those
8 probablities would be lack of information.

9 Is it your view that probablities can be
10 estimated without using strict statistical techniques
11 and techniques such as - excuse me for the technical
12 jargo - Bayesian type of procedures?

13 A. I'm sorry, could you repeat the
14 question?

15 Q. Can probablities be estimated not
16 solely using strict - I can't say it - the insurance
17 type of approach where you use the basic statistical
18 approach, but you can use expert judgment to estimate
19 those probablities also?

20 A. I think what you are referring to is
21 the use of subjective probablities?

22 Q. Yes.

23 A. Yes, that is a perfectly sensible way
24 to begin in the absence of more precise information.

25 Q. And that also can be used in the

1 calculation -- the relatively simple calculation
2 procedure that you referred to?

3 A. Yes.

4 Q. I would like to turn to the FFT terms
5 and conditions, Exhibit 1610.

6 MADAM CHAIR: Excuse me, Mr. Hanna.
7 Perhaps with interrogatory No. 24, if Mr. Cosman or Mr.
8 Freidin will be making an exhibit of any MNR
9 interrogatories we can include that as part.

10 MR. HANNA: Thank you, Madam Chair.

11 MADAM CHAIR: Mr. Cosman, can you make a
12 note of that.

13 MR. COSMAN: I will not.

14 MADAM CHAIR: You will not.

15 Mr. Freidin?

16 MR. COSMAN: Madam Chair, I have a couple
17 of questions that will get the answers through the
18 interrogatories, but rather than filing more paper the
19 answers are very short.

20 MADAM CHAIR: All right.

21 MR. FREIDIN: I don't know yet.

22 MR. HANNA: Madam Chair, I am not certain
23 it is necessary to file it given what's taken place,
24 but if it is convenient that will be certainly very
25 acceptable. Thank you.

1 MADAM CHAIR: All right. Go ahead, Mr.
2 Hanna.

3 Which condition for Forests for Tomorrow?

4 MR. HANNA: Term and condition 14. It is
5 on page 14 I believe of the document.

6 Q. Now, first just -- perhaps I will
7 call it a housekeeping matter, and that is in term and
8 condition 14(1)(viii), in the second last line you will
9 see the term present net worth?

10 DR. MULLER: A. I'm sorry, which section
11 was that?

12 Q. 14(1)(viii).

13 A. Okay. 14(1) (viii) on page 15?

14 Q. Right. In the second last line you
15 will see the term present net worth?

16 A. Yes.

17 Q. Now, you have earlier said that
18 wherever the term social or cost/benefit analysis was
19 used that you would want that interpreted as social
20 cost/benefit analysis; correct?

21 A. That's correct.

22 Q. In terms of net present value, the
23 net present value would be the social net present value
24 if you use that approach?

25 A. That's correct.

1 Q. So wherever we see net present value
2 we should insert or we should understand that's a
3 social net present value?

4 A. That's correct.

5 Q. Now, in terms of present net worth,
6 how does that equate to social net present value?

7 A. I interpret present net worth as a
8 synonym for net present value. And in the context of
9 these terms and conditions, I would presume that it
10 means the net present value of social benefits received
11 from the forest.

12 Q. Now, in term and condition 8(1)(viii)
13 you will see that the net present net worth or -- I
14 prefer present net value applies to the intensive
15 silviculture.

16 Dr. Benson -- or Mr. Benson indicated
17 that it should apply also to the extensive
18 silviculture. Is that consistent with what you would
19 want to see included in that term and condition?

20 A. I'm sorry, what is that you think I
21 would like to see in this condition?

22 Q. I will it explain again. You will
23 note in the third line at the end there is a
24 semi-colon--

25 A. Yes.

1 Q. --which separates the extensive
2 silvicultural clauses from the intensive silviculture
3 clauses.

4 A. Yes.

5 Q. Under the intensive silviculture
6 clause you will see that it is based upon economic
7 feasibility according to a present net worth criterion?

8 A. Yes.

9 Q. That similar type of clause does not
10 apply to the extensive silviculture?

11 A. Yes.

12 Q. Mr. Benson had indicated that he had
13 intended that to apply to the extensive silviculture
14 also.

15 A. Yes.

16 Q. Would that be consistent with the
17 approach that you would want to see adopted?

18 A. Well, first of all, if I am correct,
19 I believe that these terms and conditions proposed by
20 Forests for Tomorrow refer to the transitional period
21 until the full blown integrated resource management
22 planning system described in Section 92 is implemented.

23 So to be fair to Forests for Tomorrow, I
24 think you have to interpret this section in terms of
25 what they want to see going on right now until we get a

1 full system in place.

2 The principle of applying net present
3 value calculations to both extensive and intensive
4 silviculture is one in which I agree with.

5 Q. Now, in the second subsection of term
6 and condition 14, you will see it also refers to
7 intensive silviculture and extensive silviculture and
8 indicates that:

9 "Intensive silviculture means the
10 practice of forestry so as to obtain
11 profitably a high level of volume and
12 quality of output through artificial
13 regeneration."

14 Would you agree that the profitable
15 clause, if appropriate there, is appropriate also for
16 the extensive silviculture with the caveats that you
17 have given in terms of using that as a sole criterion?

18 A. I'm sorry. I think I probably agree
19 with you, but I would like you to restate the question.

20 Q. All right. As I read it, the
21 profitability criterion applies only to intensive
22 silviculture. Is that a fair reading of it from your
23 point of view?

24 A. Yes.

25 Q. Would you agree that that

1 profitability criterion should apply also to the
2 extensive silviculture with the caveats that you
3 presented in terms of the ecological constraints that
4 should be applied?

5 A. Yes, although I don't think that the
6 application of the term profitability helps us very
7 much in defining extensive and intensive agriculture.
8 That's not the definition of intensive and extensive
9 agriculture that I would have proposed.

10 Q. Thank you.

11 DR. MORRISON: A. Perhaps I might
12 interject. By profitability, I suspect that what Dr.
13 Muller and I would refer to would be profitability in
14 the net social sense rather than profitability to a
15 private firm.

16 Q. Could we turn to term and condition
17 No. 33, please. That's on page 29.

18 DR. MULLER: A. I have it.

19 Q. Now, there are eight subsections
20 understand 2(a) describing how roads should be laid
21 out, for example, the number of water crossings should
22 be kept to a minimum, roads should be planned so as to
23 minimize disturbance to the natural features.

24 I am interested in your view as to how to
25 interpret those subsections in the cost/benefit

1 framework that you have set out. Are those subsections
2 not redundant?

3 DR. MULLER: A. If we had perfect
4 information -- I refer to an earlier response that I
5 made. If we had perfect information about net present
6 values, then indeed these sections would be redundant.

7 Since I don't think we do have perfect
8 information and since I believe that this section
9 refers to current practice before we even get to the
10 stage of trying to do simple cost/benefit analysis all
11 the time --

12 Q. I'm sorry, I didn't understand that
13 statement. Could you say that again?

14 A. I'm sorry.

15 Q. Let me just clarify -- I just want to
16 make sure I understood. You said this section
17 preceding term and condition 92 is before you get even
18 to the simple cost/benefit approach?

19 A. That was an error on my part.
20 Obviously section 33(2), subsection (b), subsection
21 (iii) refers to a cost/benefit analysis.

22 So what I meant to say was that I believe
23 it to be the opinion of Forests for Tomorrow, although
24 I am not here to speak to --

25 Q. I want your opinion. It is your

1 opinion we are interested in.

2 A. What I am trying to say is that you
3 have to ask me I think my opinion in the context of
4 whether these are reasonable transition measures or
5 whether these are reasonable final stage measures
6 because I understand Forests for Tomorrow to be saying
7 that this is what should be done right now and Section
8 92 describes a further refinement on the process.

9 Q. All right. Let's ask then about the
10 final stage because I am quite honestly very interested
11 in that final stage.

12 A. Okay. Now, what is the question?

13 Q. Is this a reasonable -- are these
14 subsections, 1 to 8, redundant with the criterion that
15 you have brought forward and the approach that you have
16 brought forward in terms of analysing projects?

17 MS. SWENARCHUK: Well, with respect,
18 Madam Chair. The witnesses have been qualified as
19 economists and financial analysts. They have not been
20 qualified as road engineers.

21 They have not been qualified, for
22 example, to comment on specific terms and conditions
23 designed perhaps to ensure -- to contribute to the
24 overall goal of sustainability as affected by road
25 planning initiatives.

1 And to extent that this term and
2 condition is aimed at those goals, I would suggest
3 perhaps this is not entirely -- perhas this is not the
4 exact correct question. If there is a specific
5 economic question only, apart from the ecological
6 purposes of the term and condition, the economic issue
7 would be the one that I think the witnesses would be
8 qualified to respond to.

9 MR. HANNA: Madam Chair, I think the
10 record will show clearly I did not ask these witnesses
11 to give me evidence in terms of engineering, ecology or
12 anything of that nature.

13 The evidence that I have asked these
14 witnesses for is with respect to organization of
15 information and analysing alternatives and that's
16 specifically what this terms and conditions is dealing
17 with. Here are the factors that you need to
18 incorporate in the analysis and will be used as
19 criterion upon which to decide acceptability of a
20 project.

21 To give you a specific example of that, a
22 question I will be asking Dr. Muller, subsection 5
23 says:

24 "Whenever feasible, roads shall avoid
25 water courses, wet lands and other wet

1 areas."

2 The question that I am interested in
3 hearing Dr. Muller respond to is how would he go about
4 defining what is feasible in a cost/benefit framework.
5 That's an essential issue to get sorted out.

6 MADAM CHAIR: Well, let's go to that
7 question then, Mr. Hanna, because we have just heard
8 from Dr. Muller's client that whatever he says isn't
9 going to change their terms and conditions and this
10 section.

11 DR. MULLER: First of all, I will preface
12 my comments by saying I did not draw these up. So you
13 are asking me to comment on a set of terms and
14 conditions which are being provided by Forests for
15 Tomorrow, and I interpret these to be attempts to
16 provide quantitative constraints on planning consistent
17 with important environmental values.

18 My reaction to it is that I would
19 interpret them primary as saying that we should be
20 prepared to sacrifice a reasonable amount of net
21 present value in order to achieve these ecological
22 objectives.

23 In particular, when it ways whenever
24 feasible roads shall avoid water courses, wetlands and
25 other wet areas, I would be inclined to interpret that

1 as saying where it can be done without excessive cost.
2 I mean, I do not think a billion dollars a mile would
3 be a feasible kind of cost for avoiding a wetland, for
4 example.

5 MR. HANNA: Q. So from an operational
6 point of view, is it fair to say then that what you
7 would want to see is a reasonable range of
8 alternatives, some of which may involve crossing
9 wetlands and things that I can tell you my client isn't
10 advocating, but that those range of alternatives should
11 be put forward and the difference in terms of net
12 present value should be examined on that basis of
13 feasibility determined?

14 DR. MORRISON: A. Well, if you can
15 include the values associated with the damage to the
16 wetland in the --

17 Q. No, Dr. Morrison, I have to cut you
18 off there, that was not my question. My question was
19 precisely the exact opposite of that, that we take the
20 net present value in the way that Dr. Muller has
21 explained in terms of those things that are easily
22 quantifiable, estimate the easily quantifiable, look at
23 what the damages are that we haven't quantified and on
24 that basis make a determination of feasibility.

25 Is that a reasonable way to interpret

1 this?

2 MS. SWENARCHUK: Excuse me, but Dr.
3 Muller has not presented a cost/benefit analysis which
4 excludes consideration of environmental values.

5 What he has said is, to the extent that
6 those can be included those should be, and to suggest
7 that Dr. Morrison is out of line for referring to that
8 possibility in the cost/benefit analysis I think is
9 unfair to the witness.

10 DR. MULLER: Can I simplify matters
11 simply by saying that I am in fundamental agreement
12 with what Mr. Hanna is suggesting; that is, that you do
13 the best with the information that you have and that
14 you shouldn't expect a simple cost/benefit analysis to
15 be able to cope with all of the environmental and
16 ecological effects that you are dealing with.

17 And, consequently, I think it is
18 important to fall back on my next approach to dealing
19 with these things which is to say how much easily
20 quantified net present value are we giving up in order
21 to protect certain ecological values.

22 MR. HANNA: Dr. Muller, Dr. Morrison, I
23 appreciate your time.

24 Madam Chair, those are my questions.

25 Dr. Morrison, I was not in any way trying

1 to be unfair to you. It was in the matter of interest
2 of time.

3 Thank you, Madam Chair.

4 MADAM CHAIR: Thank you, Mr. Hanna.

5 The Board notes that you have delivered a
6 speedy cross-examination. We thank you very much.

7 It is certainly the Board's experience
8 that any cross-examinations that exceed a couple of
9 hours are not all that helpful to the Board. They are
10 meandering and often a sign of fuzzy thinking on the
11 part of the questioners and certainly repetitive, and
12 the Board will continue to drive that message home that
13 be forewarned that anything that exceeds two or three
14 hours with respect to cross-examination you better make
15 all your important points very early on or you risk
16 losing the Board's attention, although we try with
17 every bit of our fiber to pay attention to very long
18 cross-examinations.

19 MR. FREIDIN: Madam Chair, when we come
20 back after the break I would just like to address the
21 Board on what's happening with these interrogatories
22 which are being referred to but none of which have been
23 marked as exhibits.

24 MADAM CHAIR: Was there one other than
25 Mr. Hanna's 24?

1 MR. FREIDIN: I think there were some
2 referred to. CASSIT 11 was referred to.

3 MADAM CHAIR: I think we marked that.

4 MR. FREIDIN: But the reason I raise it
5 is, I understand that the Board has adopted the
6 practice of briefly looking at the interrogatory as a
7 way of getting some sense of what the issues are, but I
8 think the Board has accepted the proposition that no
9 interrogatory can be relied upon by the Board for the
10 purposes of make its decision unless in fact it is
11 evidence and the only way it becomes evidence is put
12 them in.

13 We have had evidence about them and there
14 is lots of discussion about them, that's evidence, but
15 the actual exhibit is not before the Board officially
16 and that is going to create problems for you when you
17 come to make your decision.

18 MADAM CHAIR: That's why I asked about
19 MNR No. 24. That's the only one I think of so far with
20 this panel that we don't have as an exhibit before us.

21 MS. SEABORN: There was one referred to
22 by the Ministry of the Environment, No. 10, which I
23 undertook earlier in the week to file and I will do
24 that during my cross-examination.

25 MADAM CHAIR: All right.

1 MS. SEABORN: I think just to follow-up
2 on what Mr. Freidin is saying. If someone reads into
3 the record the question and the answer because it is a
4 short question and answer, then we don't need to file
5 the interrogatories.

6 Mr. Freidin is quite right, though, that
7 they are not evidence before the Board until they are
8 marked as such unless they were read in in their
9 entirety.

10 MR. FREIDIN: I think you were referred a
11 number of times by the witnesses to CASSIT No. 11. I
12 don't think that was given an exhibit number; was it?

13 MS. SWENARCHUK: Yes, it was.

14 MR. FREIDIN: I'm sorry. My apologies.

15 MADAM CHAIR: That was the only one of
16 the package, though.

17 MS. SWENARCHUK: Yes.

18 MR. FREIDIN: What was the exhibit
19 number, do you know?

20 MS. SWENARCHUK: 1704.

21 MR. FREIDIN: My apologies.

22 MR. HANNA: Madam Chair, I hate to
23 prolong this, but perhaps just for the record, I did
24 not read the answer to 24(a) and perhaps I should just
25 do that now so we have it on the record and I don't

1 have to file it.

2 I will read the answer to interrogatory
3 from the Ministry of Natural Resources No. 24(a). It
4 is as follows:

5 "No, predictability is not an either or
6 choice. There are degrees of
7 predictability. As our monitoring
8 programs improve and as our scientific
9 understanding grows, fire and insect
10 attack become more predictable both in
11 terms of location and extent."

12 MADAM CHAIR: Thank you, Mr. Hanna.

13 MR. HANNA: Thank you.

14 ---Recess at 10:45 a.m.

15 ---On resuming at 11:10 a.m.

16 MADAM CHAIR: Please be seated.

17 Mr. Cosman?

18 MR. COSMAN: Thank you, Madam Chair.

19 CROSS-EXAMINATION BY MR. COSMAN:

20 Q. I would address my first question to
21 both of you, Professor Muller, Dr. Morrison.

22 Am I correct this is the first class
23 environmental assessment in Ontario that either of you
24 have been involved with?

25 DR. MULLER: A. It is the first one that

1 I have been involved with.

2 DR. MORRISON: A. That's correct.

3 Q. In fact, neither of you have either
4 prepared or made submissions before this case in
5 respect of any environmental assessment in this
6 province?

7 DR. MULLER: A. That's correct for me.

8 DR. MORRISON: A. That's correct.

9 Q. Now, neither of you pretends to be an
10 environmental scientist, you are not holding yourselves
11 out as scientists?

12 DR. MORRISON: A. I might point out that
13 I do have a Ph.D in ecology of which I suspect lends
14 some credibility to my comments as --

15 Q. This is your zoology degree?

16 A. It's actually from the Institute of
17 Animal Resource Ecology.

18 Q. But you haven't been qualified here
19 to give an opinion and you have been working in other
20 areas than in zoology; have you not?

21 A. I have been working -- well, I have
22 been using my zoological, if you will, expertise. I
23 have also been using my ecological expertise in the
24 course of my work, especially in the last few years.

25 Q. I guess I will put this to you: You

1 are not suggesting or you have not done a study from an
2 ecological perspective of the various timber management
3 alternatives under the Class EA?

4 A. That's correct.

5 Q. You looked at it from an economic
6 analyst's perspective?

7 A. That's correct.

8 Q. All right. Now, do you have an
9 economics degree, Dr. Morrison?

10 A. No, I don't.

11 Q. Now, I want you to assume something,
12 economists are very good at assuming things. I want
13 you to assume that the parties' terms and conditions
14 contains a proposal that protects and enhances the
15 environment in the area of the undertaking. Assume
16 that a party puts forward terms and conditions before
17 this Board that enhances and protects the environment
18 in the area of the undertaking.

19 Now, if that parties' terms and
20 conditions also protects jobs and avoids degradation of
21 northern communities, would you favour them over terms
22 and conditions where the impact is either negative or
23 uncertain?

24 DR. MULLER: A. Are you asking me?

25 Q. I will ask Professor Muller first.

1 A. If a party's terms and conditions
2 provided -- if the party's terms and conditions in both
3 cases provided equal protection for the environmental
4 and ecological values and--

5 Q. That is that assumption that I asked
6 to you make.

7 A. --and in addition one provided for
8 more protection for the people working in northern
9 Ontario related to this industry, I think I would be
10 happy to support that party.

11 Q. You would agree with that, Dr.
12 Morrison?

13 DR. MORRISON: A. Yes.

14 Q. Now, I want to talk about the
15 economic impact of Forests for Tomorrow's terms and
16 conditions.

17 Now, first of all, you both recognize
18 that your role here as witnesses is not to be advocates
19 for your client's positions?

20 DR. MULLER: A. I recognize that.

21 DR. MORRISON: A. That's right.

22 Q. Now, you have not conducted research
23 nor have you addressed in your study that's been filed
24 with the Board, the witness statement, the economic
25 impacts of implementing Forests for Tomorrow's terms

1 and conditions?

2 DR. MULLER: A. I'm sorry, could you
3 just repeat exactly what the question is?

4 Q. Yes. I said you have not -- we have
5 all read your witness statement. I can assure you I
6 have read it quite thoroughly.

7 You have not conducted research and you
8 have not addressed in your study, in your witness
9 statement filed with the Board the economic impacts of
10 implementing Forests for Tomorrow's terms and
11 conditions?

12 A. That is correct. For me anyway.

13 DR. MORRISON: A. Well --

14 Q. Isn't that a yes or no answer?

15 A. Not necessarily. In that we have
16 conducted -- I have conducted research on forest
17 management in Ontario and there are elements of the
18 terms and conditions in Forests for tomorrow's --
19 sorry, elements of Forests for Tomorrow's terms and
20 conditions on which we have addressed through our
21 witness statement.

22 Q. Let me put it this way.

23 MS. SWENARCHUK: Excuse me, will you let
24 the witness finish please.

25 MR. COSMAN: Q. Did you have something

1 else?

2 DR. MORRISON: A. No, that's fine.

3 Q. Thank you. Let me put it this way to
4 you, and this isn't a criticism. You are only asked to
5 do -- you are only asked in terms of your report to
6 answer certain questions and if you don't do it because
7 that specific question hasn't been put to you, then it
8 is not a problem.

9 I know that you gave your view in answer
10 to a question after a discussion from the Board about
11 possible impacts and what the extent of those impacts
12 might be, but let me put it this way to you.

13 If you had been asked to prepare an
14 opinion based on research in respect of the terms and
15 conditions that Forests for Tomorrow is proposing to
16 this Board, would you have made a thorough assessment
17 of supply and demand, competitive positions of various
18 producers, costs, among other factors if you had been
19 asked to do a study having regard to those terms and
20 conditions in order to get a research based opinion to
21 the Board?

22 Dr. Morrison?

23 DR. MORRISON: A. Of course.

24 Q. Okay. Professor Muller?

25 DR. MULLER: A. Can you just remind me

1 exactly what you said I would do.

2 Q. Okay. I suggested that if you had
3 been asked to provide an opinion based on research in
4 response to what the economic impacts of that whole
5 collection of terms and conditions that Forests for
6 Tomorrow is proposing you would have made a thorough
7 assessment other among other things, supply and demand,
8 competitive positions of various producers, costs, and
9 I am sure there are other factors that you would have
10 considered as well?

11 A. My difficulty with the question is
12 those other -- I might have viewed some of those other
13 factors as more important than the factors that you
14 say.

15 Q. No problem. What other factors might
16 have you considered?

17 A. Well, I would have started by trying
18 to make sure I understood the direct impact on forest
19 management in terms of the increased inputs and reduced
20 inputs of various kinds, and I would have wanted to
21 judge the nature of the competitive nature of the
22 market in which the number companies and pulp and paper
23 companies were operating in because if it were a
24 perfectly competitive market I might easily have
25 decided that detailed forecasts of future supply and

1 demand were not particularly important.

2 Q. And because you weren't asked the
3 question - and again this isn't a criticism - but if I
4 were to ask you today about the detailed analysis and
5 working papers they just don't exist today in respect
6 of the kinds of factors --

7 A. I have not prepared any detailed
8 working paper or analysis explicitly addressed to the
9 changes in employment or the geographical distribution
10 of employment or income which I expect to occur from
11 the possible implementation of the FFT conditions.

12 Q. And the same answer goes for you,
13 sir?

14 DR. MORRISON: A. That's right.

15 Q. Now, I would like to talk just
16 briefly about how Industry operates. First of all, you
17 would agree that Industry makes decisions -- have
18 either of you worked in Industry, in the forest
19 industry?

20 DR. MULLER: A. I haven't worked in the
21 forest industry, I have worked in the computing
22 industry.

23 DR. MORRISON: A. I have worked in
24 industry as well, both through summer jobs and through
25 the consulting company I am now working for.

1 Q. Your involvement in consulting is set
2 out in the CV and that's what you have explained
3 through Michelle Swenarchuk?

4 A. That's correct.

5 Q. Is there anything additional to the
6 work that you done for the forest industry that you
7 would like to bring to the attention of the Board?

8 A. Not essentially.

9 Q. Now, you understand that Industry
10 makes decisions about the long term and the short term?

11 DR. MULLER: A. Are you asking me?

12 Q. I will ask Professor Muller.

13 A. I presume that firms in the forest
14 industry consider both long-term factors when they are
15 making capital investment decisions and short-term
16 factors when they are making operating decisions.

17 Q. In fact, you understand how capitally
18 intensive the pulp and paper industry is in Ontario, in
19 the world?

20 A. Yes, I do.

21 Q. And investment decisions about
22 whether to upgrade a mill to maintain competitiveness
23 internationally and other such investment decisions are
24 made by Industry because of the capital that's involved
25 long before the decision is in effect implemented?

1 A. I'm sorry, are you referring to the
2 lead time between planning a project and actually
3 bringing it around to build the project?

4 Q. Yes.

5 A. Yes. I wouldn't hazard a guess as to
6 the number of years, but it is clear you have to do
7 some advanced planning.

8 Q. And when industry in Ontario, whether
9 it's industry operating in northern Ontario, in the
10 forest industry in northern Ontario is making decisions
11 about modernizing facilities or productivity
12 improvements to remain competitive or quality
13 improvements or whether it's a competitor in Quebec,
14 B.C. or Alabama these days, that the investor, the
15 company will do it, will make that investment if it
16 makes sense to the company that it has comfort that it
17 will a viable business in the long-run given the --

18 A. I wouldn't have put it quite that
19 way. I would have thought that the first principle
20 that a company uses is that it will choose the
21 investment, as Mr. Hanna would have it, the suite of
22 investment projects which maximize the present value of
23 its expected profits on a private cost basis.

24 Q. I have a hard time with economic
25 language. In plain English, wouldn't you agree that

1 investments to a company would only make sense if that
2 company has comfort that it will have a viable business
3 in the long-run?

4 A company is not going to make a decision
5 to spend millions and millions of dollars today if it
6 thinks five years from now it is not going to be there?

7 A. Yes.

8 Q. Now, the proposed terms and
9 conditions of any party that is before this Board --
10 will you agree that the proposed conditions of any
11 party might affect expectations about the future
12 availability of timber?

13 DR. MORRISON: A. Can I just clarify. I
14 am not sure why you would make that link between a
15 proposal, for example, put forward by the MOE about
16 terms and conditions and why that would affect --

17 Q. I will ask you this. If the terms
18 and conditions of a party would result in more
19 reserves, assume that for a moment, or would result in
20 either the fact of or the uncertainty of a percentage
21 of the productive forest, as that term has been used in
22 this hearing, being set aside as wilderness in addition
23 to wilderness parks that are already in northern
24 Ontario, would that not affect expectations about the
25 future availability of wood supply?

1 DR. MULLER: A. I think the question is
2 not whether it would affect them, certainly it would
3 affect them, the question is the concern with the
4 probability that they attach to these terms and
5 conditions being adopted in the first place and their
6 assessment of the quantitative importance of these
7 terms and conditions in the second place.

8 Q. And in that respect and in the
9 context that you have just explained it, it could have
10 an impact on investment decisions?

11 A. We are talking at the moment entirely
12 about generic terms and conditions?

13 Q. Yes. We haven't done a study of any
14 specific set of terms and conditions, so we are just
15 talking generically.

16 A. Generically it seems clear that a
17 term and condition which somebody reasonably expected
18 to be adopted and which set aside the entire province
19 as a wilderness park, just as an example, would clearly
20 affect the investment decisions of the forest industry.

21 Q. Or if a greater percentage of the
22 province were set aside as wilderness park, in addition
23 to the parks which we all know are quite substantial in
24 Ontario per capita that have already been set aside,
25 that would affect it as well? It doesn't have to be

1 all?

2 A. It would have to be the net effect of
3 all the terms and conditions put together. I mean,
4 obviously there might be some terms and conditions
5 which restricted potential wood supply, but there might
6 be other aspects of the terms and conditions which
7 increased it. So you have to look at the overall
8 impact of the entire set of the terms and conditions.

9 Q. Fair enough. Now, could I ask you to
10 turn to page 31 of your witness statement. The second
11 paragraph on page 31 where you say -- who is the
12 primary author of this?

13 DR. MORRISON: A. I am.

14 Q. Dr. Morrison.

15 "In principle, the value of land used for
16 timber production should be derived
17 from the value of wood on the stump.
18 This may be estimated by deducting
19 logging and transportation costs from the
20 price mills are willing to pay for
21 delivered wood."

22 Now, you are not suggesting that the only
23 value is the value of the wood on the stump; are you?

24 This maybe so from a private perspective,
25 but from a public perspective -- perhaps I can

1 elaborate. From a public perspective there are
2 certainly other benefits to cutting the wood and I will
3 just go through a couple of examples; better paying
4 jobs than available alternative, it saves the
5 underutilization of community infrastructure that may
6 have to take place if a community or persons in a
7 community are moved or displaced; thirdly, maintains
8 high paying jobs and supplier industries.

9 From a public perspective, I would
10 suggest to you that there are other benefits to the
11 value of land used for timber production than merely
12 the value of wood on the stump. Isn't that fair?

13 A. Well, I think it is important to
14 distinguish between - to make two distinctions. One is
15 that you would distinguish between benefits as used by
16 economists and what you might call importance values
17 which might be such things as the proportion of people
18 employed in an industry, the proportion that an
19 industry contributes to export values and so on.

20 The second distinction that I think is
21 very important to make is that while those things might
22 be considered as benefits, it is also essential to
23 consider the costs, and that from both a private and a
24 social point of view what we need to clearly address in
25 terms of evaluating lands is the difference between those

1 two.

2 Q. Okay. Well, Dr. Morrison, then let's
3 pursue that. Whether you call the things that I
4 itemized as benefits or importance values, you would
5 agree that there are other -- there is something more
6 to wood on the stump in terms of value to society than
7 then - how did you put it - the deduction of logging
8 and transportation costs from the price mills are
9 willing to pay for delivered wood.

10 A. Well, there is more in terms of the
11 value of the land because we need to include some of
12 the non-timber effects, some of non-timber uses of the
13 lands.

14 Q. All right.

15 DR. MULLER: A. Can I interject. If we
16 are judging this from accepted principles of
17 cost/benefit analysis, this statement is in principle
18 correct; that is to say, that the value of increasing
19 your wood harvest should be computed taking into
20 account the effects which are caused in any distorted
21 markets.

22 The point I want to make is that both
23 positive and negative effects would have to be taken
24 into account and that you would have to be careful not
25 to over-emphasize these values; that is to say, there

1 is literature on trying to establish them correctly and
2 you want to interpret them carefully.

3 Q. All right. Recognizing that negative
4 effects have to be taken into account, would you agree
5 that one of the positive effects of having that wood on
6 the stump in northern Ontario is that there are better
7 paying jobs than available alternatives for people
8 living in communities in the north?

9 A. Can I --

10 Q. Yes, I will address you. You are the
11 economist.

12 A. I am the economist. I don't want
13 this to be viewed as a diversion. In first year
14 economics textbooks, we usually refer to the
15 diamond/water paradox and the diamond/water paradox is
16 how come or why is it the case that diamonds which have
17 an intrinsically high value sell -- sorry. Diamonds
18 which have an intrinsically low value, that is we can
19 live without them, sell at a high price whereas water
20 which has an intrinsically low value, we would die
21 without it, sells at a low price and that's in economic
22 theory or economic textbooks called the diamond/water
23 paradox.

24 The way you resolve that paradox is to
25 distinguish carefully between the total value of the

1 water, which is what you will pay rather than do
2 without it altogether, and the marginal value of the
3 water, which is how much you would pay to get a little
4 bit more or how much you would pay to avoid giving up,
5 sacrificing it.

6 This paragraph isn't very explicit about
7 whether you are talking about total value or marginal
8 value, but I think in the context that we are talking
9 about it ought to be considered the marginal value or
10 close to the marginal value. You are talking about
11 relatively small changes in the harvest of a particular
12 commodity of wood and the appropriate measure in this
13 case is the so-called marginal value of the wood.

14 Q. Maybe I can put it this way to you.
15 I would suggest that one way to think about this, this
16 issue, from a public perspective is to incorporate into
17 the value of the wood the value of other benefits.

18 So I am not going to a little schematic,
19 but you have value of the wood therefore equals the
20 value on the stump plus the value of other benefits
21 and, if you wish, less costs. Isn't that another way
22 of doing it than the way in which it is done as
23 described on page 31 in paragraph 2?

24 DR. MORRISON: A. Sorry, could you
25 repeat that?

1 Q. The value of the wood would equal the
2 value of the wood on the stump plus the other value of
3 other benefits that accrue as a result of having that
4 wood.

5 DR. MULLER: A. Could we say that the
6 marginal value of the wood might be considered to be
7 the marginal stumpage defined as here; that is, the
8 difference between the increase in revenues from timber
9 production, less the increased costs, plus the marginal
10 value of the other benefits minus the marginal costs of
11 the other benefits.

12 Q. All right.

13 A. With that proviso I will buy it.

14 Q. All right. Let's go to --

15 MR. MARTEL: What does it all mean?

16 DR. MULLER: Sorry?

17 MR. COSMAN: I suggest, sir - and Mr.
18 Martel has asked as to what it means - I suggest in the
19 real world, in terms of social value, you don't limit
20 it to the marginal value of wood on the stump, you have
21 to take into account, as you have just done, the
22 marginal value of other benefits and some of those
23 benefits are the ones that I have outlined, better
24 paying jobs than available alternatives, save on the
25 underutilization of community infrastructure that a

1 displacement could cause, the maintenance of high
2 paying jobs and supplier industries.

3 These are other benefits that would have
4 to be taken into account as well. Is that -- less the
5 cost of those benefits in your redefinition of my
6 proposition.

7 A. That's correct, and I warn that those
8 costs may be substantial once you start incorporating
9 such items as maintenance of high paying jobs and other
10 industries because you are also going to have to
11 consider the deduction of jobs in other high paying
12 industries that are consequence on the --

13 Q. What other jobs? I want to come to
14 this, but what other jobs in high paying industry in
15 northern Ontario communities are deducted by the
16 existence of the high paying jobs in the forest
17 industry, or are you talking about canneries in Sarnia
18 for tomatoes?

19 A. Mr. Cosman, you have just introduced
20 a requirement now that you would consider costs and
21 benefits in northern Ontario. Is that what you...

22 Q. Yes, I have. So as far I understand
23 it you are speaking on a purely economic model of an
24 entire society. So that that high paying job that that
25 person has in northern Ontario can be substituted for a

1 high paying job that that person might have someplace
2 else in Ontario or Canada on an economic model.

3 A. Well, I tried to distinguish between
4 distributional issues and allocative issues and the
5 main thrust of our analysis was towards allocative
6 issues, which I described as making the pie as big as
7 possible. What you are now doing is saying -- focusing
8 only on the slice of the pie that people in northern
9 Ontario have.

10 Q. That's one of the things I am doing.
11 I am asking you to focus -- okay. Accept that
12 constraint, accept the constraint that we are talking
13 here about the area of the undertaking located in the
14 northern part of Ontario.

15 With that constraint, what other
16 alternative high paying jobs are being displaced by the
17 availability of high pay jobs in the forest industry in
18 that area?

19 A. I think that requires an assumption
20 about the disposition of the public budget.

21 So let me try to make that a little bit
22 more clear. First of all, I think it is important to
23 emphasize that I believe we are talking about marginal
24 or relatively small scale adjustments.

25 Secondly, I think we are talking about

1 adjustments that might occur if we adopted certain
2 planning procedures in forest management.

3 Let us suppose, to be more concrete, that
4 we are talking about adopting certain planning
5 procedures which lead to a reduction in silvicultural
6 expenses and, therefore, lead to a reduction in
7 government subsidies to industry.

8 Now, we have to ask ourselves what's
9 going to happen to the money that the government has
10 saved by no longer subsidizing silviculture to this
11 extent and suppose it invested the money in improving
12 either -- well, maybe infrastructure which supports
13 mining and other activities in Thunder Bay.

14 Q. I will come to --

15 A. Can I just finish?

16 Q. Yes, please do.

17 A. What I am trying to say is that I can
18 see the money, that money being spent in northern
19 Ontario in the support of activities which involve a
20 substantial amount of professional activity and high
21 paying jobs.

22 So I think that there is an argument to
23 be made that in general there are some
24 high paying jobs out there and there could be more if
25 you invested more public money into, let's say, the

1 community servie areas.

2 Q. I will come back to that issue. I
3 will leave it for the moment, but I will ensure the
4 Board that I am going to come back to the alternatives
5 which, of course, is an important aspect of
6 cost/benefit analysis.

7 I would like to ask Dr. Morrison a few
8 questions, and I am going to be talking about
9 willingness to pay surveys. First of all, I want to
10 ask you to turn to what I believe is a statement in
11 your part of the text at page 136. I'm sorry, that's
12 Professor Muller's areas.

13 A. This is 136?

14 Q. Yes. By the way, you both have
15 reviewed and agreed with what each other says in
16 certain parts of the witness statement?

17 A. As much as can be expected when you
18 have two strong minded individuals colloborate on a
19 piece of work.

20 Q. Well, to the extent that either of
21 you disagree with something that is in another part, I
22 am sure you will bring it to the attention of the
23 Board.

24 Let's go to 136 dealing with alternative
25 D and it is about -- it is just the last few sentences

1 of the last paragraph on 136 where you talk about the
2 violation of the constraint, that the annual supply of
3 timber must not decrease. You then go on to say -- do
4 you see that?

5 A. No, I'm sorry. I hope that our
6 pagination is the same.

7 Q. Page 136, last paragraph.

8 A. Yes, I see it.

9 Q. You say:

10 "Such mining of the forest might also
11 offend the sensibilities of many
12 Canadians and foreigners..."

13 A. Yes.

14 Q. You go on to say:

15 "No attempt was made to capture what
16 these groups would be willing to pay to
17 avoid such an outcome."

18 A. That's correct.

19 Q. So I take it by saying that that
20 somewhere in the economic equation you feel that there
21 should be brought in the value that is captured by what
22 many Canadians and foreigners would pay to avoid the
23 outcome that's described there?

24 That is really the basis of willing to
25 pay theory; isn't it?

1 A. Let's not go too fast.

2 Q. All right.

3 A. The statement is that no attempt has
4 been made to capture what these groups would be willing
5 to pay to avoid such an outcome, and I believe that
6 that's -- the implication that such willingness to pay
7 is important in determining the total economic -- size
8 of the economic pie for the whole world, so to speak,
9 is correct.

10 Q. Okay.

11 A. Now, is it fair for me to --

12 Q. If you are answering the question you
13 can do what you want.

14 MS. SWENARCHUK: Feel free please to take
15 the time to answer the question as completely as you
16 thought requires it.

17 THE WITNESS: I think there may be a --
18 ---Discussion off the record

19 DR. MULLER: What I am worried about is
20 the inference that that willingness to pay might not
21 affect people in northern Ontario which I infer lies
22 behind your question, and I think it's important to
23 understand that under various political scenarios the
24 existence of a willingness to pay for old growth forest
25 to avoid clearcutting in Europe might affect the

1 welfare of people in northern Ontario.

2 Let me just give you as the example that
3 people in Europe apparently were willing to pay a
4 significant amount to avoid buying seal coats and the
5 consequence was a destruction of the seal harvesting
6 industry and in particular great devastation in
7 northern Ontario in northern communities.

8 So that the inference I want to -- the
9 aspect of the question I wanted to point out is that
10 taking into account the willingness to pay to foreign
11 individuals for these values doesn't imply that such
12 willingness to pay is irrelevant to the people of
13 northern Ontario.

14 Q. All right. You are jumping ahead.

15 A. I'm sorry.

16 Q. I have a whole series of questions,
17 and rather than -- I want you to take all the time you
18 need to answer the question, but answer the specific
19 question and not try to infer where I am going. It
20 will be a lot easier and we will go faster.

21 As I understand it, what you are saying
22 here and the fact that you made the statement suggests
23 that a willingness to pay by such groups, in this case
24 many Canadians and foreigners, is something that ought
25 to be taken into account in an economic analysis?

1 A. That's correct.

2 Q. All right. And if I go back to page
3 123 -- I'm sorry, just a second. It was the wrong
4 page. I will find you the reference.

5 The reference I want to refer to is in
6 your willingness to pay portion of the witness
7 statement where you talk about many in the community
8 may derive pleasure from the existence of a wilderness
9 forest even if they don't go there and enjoy it
10 themselves. I was trying to find that.

11 A. That's probably -- the statements to
12 the effect may occur quite early on.

13 Q. I think so. I just have wrong pages
14 in my notes here. Page 23, not page 123. Page 23, in
15 the middle of the second paragraph you are talking
16 about the failure of markets to deal with products that
17 aren't marketed?

18 A. That's correct.

19 Q. All right. You say in the middle of
20 the page, that paragraph:

21 "A good example is the existence of a
22 wilderness area. Many in the community
23 may derive pleasure from the existence
24 of remote wilderness even if they never
25 expect to visit it."

1 You are suggesting that that is a value
2 that should be captured. There are user and non-user
3 values in the non-timber area. A use value may be what
4 you would be prepared to pay for more hunting days in
5 northern Ontario or a non-user value may be what would
6 you be prepared to pay to enjoy the knowledge that a
7 wilderness area exists or that a wilderness area is
8 increased. That's in rough terms.

9 A. In rough terms, I agree, yes.

10 Q. All right. And I take it that you
11 would agree that you should try to measure what people
12 would be willing to pay and that should be factored for
13 non-timber values?

14 A. Yes.

15 DR. MORRISON: A. Though I might point
16 out that Dr. Muller, especially in his direct
17 testimony, made the point that in many cases you do not
18 need to make that assessment. You can make judgments
19 independent of that and turn the question around
20 asking: How much are we going to forego in net present
21 value to achieve this benefit.

22 Q. All right. If you don't know the
23 answer to that, the way to obtain that information is
24 through willingness to pay surveys?

25 A. Among other things.

1 Q. All right.

2 MADAM CHAIR: Excuse me, Mr. Cosman.

3 Just before we go on, I think the Board is going to
4 have to ask, how do people derive pleasure from a
5 wilderness area even if they never visit it?

6 MR. COSMAN: The Board is even getting
7 ahead of me.

8 MADAM CHAIR: Oh, sorry.

9 DR. MULLER: How do they derive pleasure?
10 They feel good to know it exists.

11 There are people who feel good to know
12 that the rain forest in Costa Rica and the Amazonian
13 forest in Brazil exists and they feel bad that the rain
14 forests in the Amazonian basin is being chopped down
15 and many of them are willing to pay even in the face of
16 public goods difficulties. Many of them are willing to
17 contribute to the support of groups who are attempting
18 to minimize the destruction of these rain forests.

19 Now, I think it is fair to say that most
20 of the people who contribute money to the support of
21 environmental groups who are fighting to preserve those
22 forests never expect to visit them, and in that sense I
23 would say that they derive pleasure or satisfaction
24 from the existence of the rain forest even though they
25 never expect to visit it.

1 MADAM CHAIR: So the link of experience
2 then is the education, information that the public
3 receives to understand what that is?

4 DR. MULLER: I am not sure if I would
5 express it that way. There are people in the
6 environmental movement who talk about stewardship,
7 about important it is to preserve the ecological values
8 of the world the way we found them, and I would in my
9 crude economic terms say that the amount of money that
10 they are willing to sacrifice in order to achieve their
11 stewardship goals is a measure of their willingness to
12 pay for these values, and again in my crude economic
13 terms I would say they are getting pleasure out of the
14 knowledge that their stewardship goals are being
15 attained.

16 Does that make sense?

17 MADAM CHAIR: Would you talk about those
18 people as being the public?

19 DR. MULLER: I would talk of those people
20 being members of the public.

21 MR. MARTEL: Does it go beyond just
22 knowing it is there or the fear of the ramification
23 from cutting is down?

24 DR. MORRISON: Does it go beyond that?

25 MR. MARTEL: Yes. Then the sheer

1 pleasure of knowing -- isn't it a fact that a lot of
2 people who want to prevent the destruction of the rain
3 forest, as they see it, are for reasons of maintaining
4 a balance for extracting medicines for a whole series
5 of things, not just the sheer pleasure of knowing it is
6 there?

7 I mean, there are many factors I think
8 Dr. Muller is saying.

9 DR. MULLER: That's correct.

10 DR. MORRISON: And to pick an example
11 somewhat closer to home, the example of Moresby. A
12 large national campaign was waged by the environmental
13 groups to try and turn that into a park and that
14 campaign drew on a number of different values that
15 people had, values about aesthetics values, drew on
16 values -- respect for ecological integrity of the
17 ecosystem. It drew on a valuing of the native
18 communities in that area and all of those would be
19 incorporated in existence values and other kinds of
20 values that might be attributed to the land.

21 MR. MARTEL: I am just asking, do you
22 lump it all?

23 DR. MULLER: You may be bridling of my
24 use of the word pleasure whereas you would want to use
25 some more --

1 MR. MARTEL: No, I just want to know if
2 it includes everything.

3 DR. MULLER: Yes, it includes everything.

4 MR. COSMAN: Q. All right. Moving back
5 from the rain forests to Ontario's northern forests for
6 the moment. You just agreed that you would agree that
7 you should try to measure what people would be willing
8 to pay for such things?

9 DR. MULLER: A. Yes.

10 Q. Okay. And in terms of -- and I just
11 want to let that hang for a minute.

12 I am going to refer to one interrogatory,
13 it is a very short one, and I am going to read the
14 question and answer rather than file a whole lot of
15 paper. It is CASSIT interrogatory question No. 1 and
16 the question is:

17 "In the executive summary, item 2, what
18 is net benefit to society."

19 And the second part of that question is:

20 "Have you defined the geographical,
21 cultural, historical, social or economic
22 extent or boundaries or dimensions of the
23 society."

24 And the answer is as defined in the
25 glossary as the answer to another interrogatory:

1 "The net social benefit yield by the
2 forest in any year is different between
3 the benefits and opportunity costs
4 experienced in that year. The important
5 idea is that all benefits and costs
6 should be counted regardless of who
7 receives or pays them."

8 And in answer to the second part of the
9 question:

10 "One might wish to include all humans
11 throughout the world in the 'society'
12 being analyzed. In cost/benefit analysis
13 it is traditional to restrict attention
14 to an individual country."

15 I don't know think there is any conflict
16 in what you are saying in that second part of the
17 statement than what you said earlier in the witness
18 statement about finding out what both Canadians and
19 foreigners thought about something?

20 DR. MULLER: A. I don't believe so.

21 Q. Were willing to pay?

22 A. I don't see any conflict.

23 DR. MORRISON: A. If I could just
24 interject here. One of the factors which is important
25 in northern Ontario, especially with respect to

1 recreation, is that there are many people who come from
2 outside the country who are willing to pay and
3 contribute to the northern Ontario economy through
4 hunting an fishing and so on.

5 Q. What question was that, Dr. Morrison?

6 A. I'm sorry, perhaps I misunderstood
7 the question.

8 Q. All right. We are not having a
9 general discussion. If there is something you want to
10 add in response to a question, that's certainly fine.

11 MADAM CHAIR: Excuse me, just one
12 question.

13 Dr. Morrison, we don't have a lot of
14 evidence before this Board on the numbers of people who
15 use the north for various recreational purposes. Were
16 you able to review some data on this?

17 DR. MORRISON: Well, perhaps I would just
18 draw the Board's attention to the MNR statistics which
19 I believe are exhibits which do include figures on
20 resident and non-resident hunters who use the forests
21 of Ontario.

22 MADAM CHAIR: So those are the statistics
23 upon which you rely?

24 DR. MORRISON: That's what I was
25 principally thinking of, yes.

1 MR. FREIDIN: Madam Chair,
2 notwithstanding whether the witness relied on it or
3 not, there was extensive evidence in Panel 6. Mr.
4 Kenrick gave all the evidence on the sorts of things
5 mentioned.

6 MADAM CHAIR: Yes, we have received that.
7 And at the time I think we were asking questions about
8 what it meant and if there was any more and if there
9 was detailed information on it.

10 MR. COSMAN: Q. Dr. Morrison, the
11 figures you are talking about and the comments you made
12 earlier is in relation to monies that foreigners do
13 pay. My questions are in the context of willingness.
14 All right?

15 DR. MORRISON: A. Right.

16 Q. I mean, we have data on what hunters
17 from Chicago do pay, but my questions have to do with
18 who is the group that you incorporate in willingness to
19 pay surveys?

20 A. Well, obviously hunters in Chicago
21 ought to be included.

22 Q. Let me just ask the specific
23 question. Perhaps you agree as well with what
24 Professor Muller has just said, is you would agree that
25 you should try to measure what people would be willing

1 to pay and you say that foreigners should be included
2 such as the hunter in Chicago in such willingness to
3 pay surveys; right?

4 Isn't that what you just said, Dr.
5 Morrison?

6 A. They ought to be include. I mean,
7 obviously you need to be reasonable about the extent
8 that you do include them.

9 Q. All right. You yourself just said
10 that the hunter in Chicago should be included in a
11 willingness to pay survey?

12 DR. MULLER: A. Can I just interject?
13 If you include all human beings
14 throughout the world as a society, yes.

15 If you, as is traditional, restrict
16 attention only to Canada; that is, to a country, then
17 the only relevance would be whether that willingness to
18 pay was realized; that is, whether the person actually
19 came and spent money in Canada. In other words, it
20 would be the benefit of Canadians that would be
21 important under those circumstances.

22 Q. And that is when you are not talking
23 about a non-user value that you are measuring because
24 if someone in Chicago is being asked whether he would
25 be willing to pay "x" dollars to keep northern Ontario

1 as a wilderness, whether or not he ever went there,
2 that is not captured by him coming to northern Ontario?

3 A. No. So the question again is the
4 boundary, and it may be your point. It is the boundary
5 of the cost/benefit analysis.

6 I said in response to the interrogatory
7 which you cited, which I drafted, that it is
8 traditional in cost/benefit analysis to focus on one
9 particular country and, consequently, if there was no
10 hope of collecting or being damaged by the willingness
11 to pay in another countries, then there would be
12 irrelevant, but I refer you to my earlier example in
13 which it is possible for us to be damaged by the
14 existence -- by disappointing other people's
15 expectations.

16 MR. COSMAN: I am just about to carry on.
17 It's twelve.

18 MADAM CHAIR: Let's break for lunch, Mr.
19 Cosman.

20 There is just a quick matter I wanted to
21 discuss with Ms. Seaborn and Mr. Freidin. We received
22 some letters from Mrs. Paton Lodge Lindsey, who has
23 been following our hearing, and she has run into some
24 understandable.

25 She got in touch with us and asked us if

1 we were planning on going back to Sault Ste. Marie and
2 Mr. Pascoe wrote to her honestly and said no, we might
3 return to hear parties' evidence or we might return for
4 a site visit, but we just don't have any plans to do
5 that.

6 Well, following on that she learned that
7 there was going to be a hearing about bump-ups in Sault
8 Ste. Marie on February the 7th. Now, that is, I
9 understand from her letter, the EACC exercise.

10 MS. SEABORN: That's correct.

11 MADAM CHAIR: Well, she understandably
12 feels that somehow she hasn't received the straight
13 goods from the Board.

14 So I would suggest, Ms. Seaborn, if you
15 would kindly undertake to write Ms. Paton Lodge
16 Lindsey, which I think would be appropriate, and
17 explain to her the difference between the timber
18 management hearing and EACC and the fact that there is
19 no exchange between us and the Board had no idea that
20 bump-up hearings were being held in Sault Ste. Marie or
21 what the dates were.

22 MS. SEABORN: What I could do, Madam
23 Chair, is write her a reply and provide her with a copy
24 of the Minister's letter referring the three timber
25 management planning areas to EACC.

1 There was also a public notice in late
2 December announcing the meetings for the EACC meetings
3 across northern Ontario and there is one in Toronto as
4 well. I can include that public notice as well.

5 MADAM CHAIR: Could you, please.

6 MS. SEABORN: I will file a copy of my
7 letter with the Board.

8 MADAM CHAIR: Thank you. I think the
9 Board should be notified when EACC will be holding
10 hearings that affect the timber management hearing with
11 respect to dates so we don't have this problem anymore.

12 Had we known the EACC meeting was going
13 to be held in Sault Ste. Marie, then Mr. Pascoe
14 probably would have said this doesn't have anything to
15 do with us, but here is a date.

16 MS. SEABORN: I apologize. I wasn't
17 aware that the Board did not receive--

18 MADAM CHAIR: We receive nothing from
19 EACC.

20 MS. SEABORN: --as a matter of course the
21 notices of public hearings for EACC.

22 MADAM CHAIR: Nothing.

23 Mr. Freidin, apparently Ms. Lodge Lindsey
24 was not on the mailing list to receive the EACC notice.
25 I thought we had a situation where everyone that made a

1 submission to the Board immediately went on your
2 district mailing list.

3 MR. FREIDIN: Those notices wouldn't have
4 gone out from the MNR district. Those notices are sent
5 out by the Ministry of the Environment.

6 MADAM CHAIR: Both your ministries get
7 our entire mailing list from Mr. Pascoe and every time
8 we have satellite hearing in areas make sure those
9 individuals who show up and are registered or whatever
10 end up on your mailing list so when you do something in
11 those areas they are contacted.

12 MS. SEABORN: Thank you.

13 MR. FREIDIN: Sure.

14 MADAM CHAIR: Thank you.

15 MR. FREIDIN: We have to make the
16 decision of whether it is relevant or not. We still
17 get complaints, but I understand.

18 MADAM CHAIR: Thank you.

19 ---Recess at 12:00 p.m.

20 ---On resuming at 1:35 p.m.

21 MADAM CHAIR: Please be seated.

22 Mr. Cosman?

23 MR. COSMAN: Thank you, Madam Chair.

24 Q. Witnesses, I have been exploring the
25 issue of willingness to pay and in particular whose

1 willingness to pay, but before continuing with that
2 line of questioning I would ask you to turn to Exhibit
3 1696, page 32.

4 Page 32 is the public attitude survey
5 that you relied upon, Dr. Morrison, in your evidence?

6 DR. MORRISON: A. Right.

7 Q. Just as an aside and before I
8 continue with it, with respect to Ontario under item 2,
9 the question is:

10 "Chemicals such as pesticides are
11 necessary for taking care of forests."

12 What are the answers with respect to
13 Ontario residents in that regard?

14 A. There are 53 per cent which agree
15 with that statement, 42 per cent which disagree with
16 that statement and 4 per cent who don't know.

17 Q. All right. Now, I would like to go
18 to question 4 which is the one that you talked about in
19 your evidence. Question 4, the question was:

20 "The forest should not be exploited
21 economically at all."

22 And in Ontario it was roughly half and
23 half agreed, that some 48 per cent said they agreed it
24 shouldn't be exploited, 49 per cent disagreed?

25 A. That's right.

1 Q. I think you said in your evidence you
2 don't know where the residents came from or what part
3 of Ontario the residents came from who answered those
4 particular questions?

5 A. That's correct.

6 Q. All right. Now, assuming the survey
7 is statistically balanced, what is the population of
8 the area of the undertaking?

9 A. I don't have the exact figure. I can
10 look it up.

11 Q. Do it in rough terms. In terms of
12 the area of north, what is the population in Ontario?

13 A. Well, the figure I cited when I was
14 presenting this was a figure of 9 per cent, I believe,
15 for northern Ontario.

16 Q. All right. Even taking that in rough
17 terms, that would mean that for every -- if it was
18 statistically balanced, for every 100 people, nine of
19 those residents would be spread out, in a perfect
20 survey, over northern Ontario?

21 A. Right.

22 Q. So if the survey was a Canada-wide
23 survey of the 27-million that we have at the moment,
24 roughly, the percentage would even be smaller; would it
25 not?

1 In other words, if you did a survey of
2 what Canadians thought about a particular subject and
3 if you took the percentage of northern Ontario
4 residents who expressed a view, there would be very few
5 northern residents in that perfectly statistically
6 balanced sample of a hundred people?

7 A. I would agree that the population of
8 northern Ontario is small relative to the rest of
9 Canada, yes.

10 Q. So in any survey then, whether it is
11 a public attitude survey or a willingness to pay
12 survey, say of Ontario or Canada as a whole, the
13 attitudes or views of people in northern Ontario would
14 certainly be in the minority in the answers in that
15 survey?

16 A. That's correct.

17 Q. So in a willingness no to pay survey
18 in which you asked: How much would you pay to keep
19 more of northern Ontario in a wilderness state,
20 assuming a perfectly statistically balanced survey with
21 a hundred people, nine of whom were spread over the
22 north, chances are -- maybe I should ask you.

23 You would agree with me that chances are
24 that people who depend on their jobs working and living
25 in northern communities are more likely to have a

1 different perspective than the broker on the corner of
2 Bay and King? That's fairly reasonable; isn't it?

3 A. Yes.

4 Q. So when you are dealing with the
5 answers to surveys, whose willingness to pay is
6 obviously important when you are weighing the results?

7 DR. MULLER: A. Can I break in?

8 Q. Sure. Could Dr. Morrison answer the
9 question first? If he can't answer it, then you can.

10 A. Certainly.

11 DR. MORRISON: A. Well, obviously what
12 you would be doing in a willingness to pay survey is
13 assessing the willingness to pay of people in
14 aggregate.

15 People at the corner of Bay and Bloor may
16 have -- maybe indifferent to the fate of forests in
17 northern Ontario and may have a relatively low
18 willingness to pay.

19 I would suggest that people in northern
20 Ontario may be quite concerned about the way forests
21 are being managed in their immediate vicinity
22 especially, as you suggest, their jobs may depend on
23 it, therefore they would have a much higher willingness
24 to pay and, therefore, their views would probably be
25 weighted more heavily in such a survey.

1 Q. I suggest that perhaps the opposite
2 would take place. The person on the corner of Bay and
3 King might be willing to spend, say, \$10 to keep it
4 because he likes the idea of having more wilderness in
5 northern Ontario; whereas the person in northern
6 Ontario knows that more wilderness means it has an
7 impact on the communities in which he lives and works.

8 So, in fact, it is awful easy in the
9 corner of Bay and King to say: Sure, I am willing to
10 pay \$10 to keep northern Ontario as a greater area of
11 wilderness; whereas the person in Espanola might say:
12 No way, I am not prepared to pay anything, I know what
13 the costs already are of taking productive forest out
14 of work.

15 Isn't that another perspective on the
16 same question?

17 A. Of course it would depend on how the
18 exact question in the survey was phrased.

19 Q. All right. That's true. Sir?

20 DR. MULLER: A. You asked me to indicate
21 when I disagree with my colleague.

22 I would argue that for the purposes of
23 computing the allocative effects of a forest management
24 plan you should not weight the willingness to pay of
25 southern residents any differently from those of

1 northern residents.

2 Q. All right. Let's explore that, then.
3 Let's take one of the examples I believe from your
4 witness statement as to what a non-market value or a
5 non-timber use of -- a particular non-timber use which
6 has value which is not marketable, and that is the
7 storehouse of biological diversity issue.

8 Some people are prepared -- would be
9 prepared to pay, I am sure a lot of people in Forests
10 for Tomorrow would be prepared to pay some money to
11 maintain northern Ontario or more of northern Ontario's
12 forests as a storehouse of biological diversity.

13 So let's say the question was posed in
14 Toronto on the corner of Bay and King and it was posed
15 in the format of four alternatives and the question I
16 am positing would be something like: What would you be
17 willing to pay to remove "x" hectares, all, some, part,
18 whatever, "x" hectares from productive forest in
19 northern Ontario in order to ensure that we maintain a
20 storehouse of biological diversity in the north.

21 It is a wonderful concept with which no
22 one disagrees, but if you ask that question at the
23 corner of Bay and King, I suggest to you again that you
24 would have the same -- the likelihood is you would have
25 a different answer than with the smaller sample that

1 you would be asking in northern Ontario where removing
2 forest again from productive use has a real life
3 impact. I am not talking about the values of doing it
4 at the moment, but I am talking about what the survey
5 results would likely have.

6 DR. MORRISON: So your question then
7 is...?

8 Q. So the question is, would you be
9 willing to pay \$100, \$50, \$25 or \$10 and 90 people in
10 Ontario -- a hundred people are asked and 60 per cent
11 of the people in southern Ontario say: Yes, I would be
12 prepared to pay \$10, just for the sake of simplicity,
13 and only one of the nine northern Ontarions say yes.

14 You multiply the values of that
15 willingness to pay, that 60 people times \$10 and add
16 that into the equation in your cost/benefit analysis
17 which outweighs the northern Ontarions evaluation of
18 that same value, and in the end I guess what I am
19 suggesting to you is that if making decisions on a
20 cost/benefit analysis basis, which include willingness
21 to pay measures for all Ontario residents or Canadian
22 residents, then you are running the risk of southern
23 Ontario residents or other Canadians that because of
24 the size of their population the decisions that are
25 made are going to be made to the economic detriment of

1 northern Ontario residents, by weighting in the
2 evaluations from people outside the area of the
3 undertaking?

4 A. I would disagree with that statement.

5 Q. Okay. Why is that?

6 A. The reason is that if you take
7 southern Ontario residents and the willingness to pay
8 of southern Ontario residents into account, what you
9 are saying is that they should -- you should be able to
10 collect from those people enough money to fully
11 compensate the people who are bearing the costs of the
12 policy adjustment.

13 So the point I wanted to stress was that
14 establishing a willingness to pay doesn't preclude
15 actually collecting the money from those people who are
16 willing to pay it and using it to compensate for the
17 people who are bearing the direct costs.

18 Q. Isn't that --

19 MADAM CHAIR: Excuse me. Sorry, Dr.
20 Muller.

21 Can you point to any example of an
22 environmental experience we have had in Canada where a
23 group who lost on the side of an environmental issue
24 were compensated?

25 DR. MORRISON: Perhaps one of the best

1 examples and fairly recent example is the compensation
2 process which I understand, if I remember correctly, is
3 still underway for compensating the forest companies in
4 Queen Charlotte Islands for the establishment of the
5 park reserve in South Moresby.

6 DR. MULLER: Another example would be the
7 James bay Northern Development agreement in which
8 native residents of northern Quebec negotiated after a
9 great deal of fight, they negotiated an agreement which
10 provided them with very significant payments in return
11 for the environmental costs that they were bearing.

12 Now, I am not prepared to say they were
13 fully compensated, and this partly has to do with the
14 question that Mr. Hanna raised earlier about
15 willingness to pay and willingness to accept
16 compensation, but it certainly is a case in which some
17 degree of compensation was paid to a group of people
18 who were individually bearing the costs.

19 MR. MARTEL: How much does this other
20 factor enter into when doing this analysis, of people
21 really understanding the issue and whether it's
22 biological diversity even to northerners who are living
23 there, a lot of them might say: What the hell are you
24 talking about, the same thing in the corner of Bay and
25 King because they don't have all the facts.

1 Capital punishment was another prime
2 example. You get attitudes that aren't based on
3 factual information. Is that taken into consideration
4 at all or you just go by whatever the survey indicates?

5 DR. MULLER: Perhaps I can help you, Mr.
6 Martel, by pointing out that much of the most recent
7 literature which I had read on the contingent
8 evaluation method, which is one method of conducting
9 such surveys, emphasizes extensively the need to inform
10 the respondent about the details of the options being
11 considered, to make them precise, to provide the person
12 with the appropriate amount of background information
13 and also to emphasize what they call the payment
14 vehicle which is being used.

15 So that there are attempts made, for
16 example, to present a person with a card which shows
17 how much he is paying in taxes for various things and
18 the person is asked to locate on that card the amount
19 of tax increase he would be prepared to pay for this
20 particular event.

21 So what I am trying to say is that my
22 understanding of the contingent evaluation literature
23 is that the concerns you express about information are
24 taken very seriously indeed.

25 MR. COSMAN: Q. Just going back a step.

1 I think you did agree, Dr. Morrison, that the whole
2 area of contingent evaluation has been the subject of a
3 lot of comment in the literature and its reliability
4 and the reliability of the information obtained through
5 such surveys is still a question?

6 DR. MORRISON: A. Well, reliability is
7 not a yes or no; it is not a question of reliable or
8 not. It is a question of how reliable, and that has
9 been the subject of controversy as you acknowledge.

10 Q. In addition, and I go back to a
11 question from the Board in an earlier -- one of the
12 earlier sessions of roughly three days of chief when
13 you were asked question, and I think you were asked one
14 thing for someone to say: Yes, I would be willing to
15 pay \$10 because I like the idea of having more land in
16 the wilderness in northern Ontario, whether I go there
17 or not, but it is another thing when somebody says:
18 Well, where is your cheque book.

19 When it comes to compensation, first of
20 all, is there any compensation scheme that's part of
21 Forests for Tomorrow's terms and conditions?

22 A. Not that I'm aware of.

23 MS. SWENARCHUK: No.

24 MR. COSMAN: Q. In fact, I am going to
25 suggest to you that a decision could be made - let's

1 take the issue more wilderness - and in fact Mr.
2 Martel's comment is quite pertinent because people just
3 don't understand the factual ramifications of the
4 decisions even if they say they are willing to pay for
5 more wilderness, but I suggest to you that if
6 willingness to pay information is taken into account in
7 making timber management decisions and if Ontario
8 residents or Canadian residents have equally weighted
9 answers to the questions that have been asked to them,
10 you could easily have the decision that we are going to
11 reduce forestry activities in this location or in that
12 location because when we take into account the results
13 of those surveys large number of persons in Ontario
14 said they would be hypothetically willing to pay \$10 to
15 keep it as wilderness. Isn't that a result?

16 DR. MORRISON: A. It is a possibility
17 you could get from such a survey, yes.

18 Q. all right. I am going to ask you to
19 page turn to page 33.

20 DR. MULLER: I'm sorry. Could I just
21 interject.

22 This is quite standard for public policy
23 decisions of all kinds. For example, the Government of
24 Canada recently launched us into a free trade agreement
25 with the United States. Economic theory indicated that

1 it would increase the overall size of the economic pie,
2 but lots of people realize that the distributional
3 consequences might be negative for some people. It
4 apparently was not required of the federal government
5 that it compensate everybody that was negatively
6 affected by the particular decision.

7 I am just trying -- I was on the other
8 side of the free trade agreement issue. What I am
9 trying to point out is that there is no established
10 principle of public choice that I am aware of which
11 says that we really have to compensate the losers in
12 every political choice that we make.

13 Q. Thank you. Page 33 of your witness
14 statement.

15 MR. MARTEL: Who usually are the losers?

16 DR. MULLER: What's that?

17 MR. MARTEL: Who usually are the losers?

18 MR. COSMAN: This is a political science
19 question.

20 MR. MARTEL: It is so significant in
21 decision-making and the federal government, as you say,
22 made a decision that the people first to go usually are
23 the illiterate, those who had difficulty in school, who
24 couldn't succeed, last hired, first fired.

25 I mean, very difficult decisions if you

1 are on the losing side and nobody is willing to
2 compensate them all. Not bad if you are on the other
3 side that are the winners, but the winners are
4 usually - it has been my experience anyway - frequently
5 those least equipped to deal with it are the losers,
6 and that's the problem we are confronted with right now
7 in terms of the forestry in which it happens in
8 northern Ontario, the relocation of people frequently.

9 DR. MULLER: Mr. Martel, I just suggest
10 that an approach to social policy which I would
11 recommend is to say that we should facilitate
12 reallocation which increases the size of the social pie
13 and we should use the increased size of the social pie
14 to make it easier for the people who would otherwise be
15 the losers of these adjustments.

16 I understand that this is the case, for
17 example, in the smaller countries of the European
18 community, that the decision has been made to invest
19 heavily on transitional adjustment assistance rather
20 than to try to protect people from the ramifications of
21 external environmental changes over which they have
22 little control.

23 So I think it is entirely in line with
24 our evidence that the gains that you can get from a
25 social policy which emphasizes allocative efficiency;

1 that is, the net present benefit type of thing, it is
2 entirely consistent with our policy to take some of
3 those gains and work hard on designing social policies
4 which make it easy for people -- easier for people to
5 adjust to change.

6 MR. COSMAN: Q. Page 33. Another idea.
7 You will see just after the 1, 2, 3 and 4 on page 33 of
8 the witness statements the following statement.

9 "The conflicts between logging and some
10 other users of the forest have led to
11 extended political battles over land use
12 and general other forest users are not
13 compensated for the costs imposed on them
14 by logging."

15 First of all, as this Board knows there
16 is a real issue as to what costs have actually in
17 reality been imposed on other users, but my question is
18 not that.

19 My question relates to the benefits that
20 other users receive from logging. For example, you
21 know the hunters, the recreational benefits, and my
22 question to you is -- I will put to you: Similarly,
23 they are not paid for the benefits they receive. They
24 are not charged and they are not paid; is that right?
25 There is no market either way?

1 DR. MULLER: A. They being...?

2 Q. The other users. Other forest users
3 are not compensated for the costs imposed on them by
4 logging. That assumes a number of costs in your
5 statement.

6 But my question to you is that in the
7 same way that they are not compensated for costs,
8 assuming that there are some, they are not charged for
9 the benefits that they receive as a result of logging
10 in our economic system?

11 A. I would agree with that.

12 Q. The hunter who has better hunting
13 opportunities because they have built a road into an
14 area which was otherwise inaccessible is not charged
15 for that?

16 DR. MORRISON: A. Except through taxes.

17 Q. In the same way that everybody is
18 charged for any benefit that it receives from society?

19 DR. MULLER: A. Not entirely. If you
20 impose high hunting licences, high fees for the use of
21 the land through a licensing system, that might
22 affect --

23 Q. That's fine, but we are getting into
24 something else. Assume they are the same hunting fees
25 in a case where there was no access and in a case after

1 there is access. There is a benefit that the hunter
2 obtains or the recreational boater obtains, the
3 fisherman obtains and is not charged for it?

4 A. That's correct.

5 Q. Okay. Now, when you incorporate
6 willingness to pay estimates in cost analyses in timber
7 management, if that leads to decisions that enhance
8 non-timber values at the expense of northern Ontario
9 jobs, do you agree that there should be in the process
10 some method for transfer payment if that route is
11 taken, or is it all in a notional sense dealt with?

12 A. In exactly what capacity are you
13 asking me this question? In my capacity as an expert
14 in economic analysis?

15 Q. Yes.

16 A. In my capacity as an expert in
17 economic analysis I would say that the majority
18 opinion, as I see it, is that the distributional
19 effects of projects should be dealt with by matters --
20 by programs of general application by provincial and
21 federal governments.

22 So that, for example, a scheme which
23 eased -- suppose that there was a scheme which made it
24 easier for retraining and adjusting -- easier for
25 people to retrain and/or move and this scheme was made

1 generally available to residents both of the north and
2 the south of Ontario. I would view that as
3 compensation in some sense or dealing with in some
4 sense the distributional issues that are raised.

5 In my capacity as a reader of the
6 literature on cost/benefit analysis, I would say that
7 while there is debate on the question, the standard
8 recommendations, as I see it, is that you should
9 present distributional effects separately and you
10 should leave to the political system the primary
11 question of distributing income between income groups
12 and geographic areas.

13 Q. All right. Let me go to another
14 question, the question of the definition of the forest
15 industry as you have dealt with it in your witness
16 statement.

17 Professor Muller I am going to ask you a
18 number of questions. First of all, do you agree that
19 downstream activities in the north; that is, forest
20 activities, forest industry activities are inextricably
21 linked to logging?

22 A. I think it probably depends how far
23 down the stream you go, but I would certainly that
24 accept some in the pulp and paper production are
25 intimately linked with logging.

1 Q. That is what in fact Mr. Ross and Mr.
2 Watson said in their witness statement No. 2 in the
3 Industry case that you will recall. Did you read that?

4 A. I did it read it. I have not read it
5 for about a year, so...

6 DR. MORRISON: A. I might just point out
7 that there are other ways that the pulp and paper
8 industry have received inputs other than logging.

9 Notably the article from the Globe and
10 Mail which I filed as an exhibit pointing to the use of
11 recycled -- the establishment of recycling plants in
12 Ontario.

13 Q. All right. My question, I will put
14 it --

15 A. So I guess I would suggest that it is
16 not inextricably linked; you can have a pulp and paper
17 industry base on recycled fiber.

18 Q. Do you think you could have a pulp
19 and paper industry in northern Ontario based on
20 recycled paper? Is that your view?

21 A. Not solely, no.

22 Q. The reason you log in northern
23 Ontario is to feed the mills, saw mills and pulp mills;
24 isn't that correct?

25 A. Yes.

1 Q. And these mills wouldn't be there, I
2 would suggest to you, without logging?

3 We wouldn't be importing logs from Sweden
4 or the U.S. for a mill in Espanola?

5 A. Presumably not, no.

6 Q. Now, if you limit the forest industry
7 to the logging side only it has certain impacts and I
8 want to explore one of those.

9 Mr. Watson in his testimony in Panel 2
10 did an analysis of the employment in the area of the
11 undertaking and he came up with 33,500 forestry jobs of
12 which only 6,440 were in the logging area and 3,610 in
13 the forest management area.

14 Do you have any quarrel with those
15 figures?

16 A. Again, I haven't reviewed his
17 evidence for a while, but given that you have
18 accurately represented his numbers.

19 Q. Did you do your own analysis of the
20 employment in the area of the undertaking? Do you have
21 that?

22 A. No, I haven't.

23 Q. Okay. Now, if the Board was
24 persuaded that it should only look at logging in
25 considering impacts, it would only consider I suggest

1 70 per cent of the forest -- it would only consider 30
2 per cent of the forest industry jobs, 70 per cent of
3 those job would be left out in terms of any impact
4 analysis. Just, Dr. Morrison first, as a straight
5 mathematical...

6 A. Well, if we are talking about an
7 impact analysis as opposed to a cost/benefit analysis
8 or an analysis of the net social benefit to the
9 Province of Ontario, yes.

10 Q. All right. Talking about net social
11 benefit. Do you not also consider consequences and
12 linkages? First of all, Dr. Morrison.

13 A. Well, I would defer to Dr. Muller who
14 has had more experience with cost/benefit analysis than
15 I because it would seem to be a theoretical question
16 about cost/benefit analysis.

17 DR. MULLER: A. I think that the
18 Treasury Board guidelines which I presented to the
19 Board make it quite clear that as a matter of general
20 practice it is unwise to go far down the road of
21 considering linkages and interactions.

22 Now, I am not a hundred per cent sure of
23 what you mean by linkages and interaction, but I am
24 particularly concerned that you might mean induced
25 effects in the input/output terminology.

1 Q. Well, I don't think you have to go
2 too far down the road, tell me if you disagree, to
3 understand that the logging industry supplies the wood
4 using industries of the mills that are distributed
5 throughout northern Ontario and that linkage is very
6 direct and clear?

7 MADAM CHAIR: Excuse me, Mr. Cosman. Can
8 you remind the Board. Are the 33,540 jobs that you
9 referred to direct jobs in log and milling?

10 MR. COSMAN: Yes, that's logging and
11 forest management. That's right.

12 MADAM CHAIR: Those are direct jobs?

13 MR. COSMAN: All forest industry. 6,440
14 in forest management. So it is mills in effect which
15 make up the balance.

16 MADAM CHAIR: That's not an indirect...

17 DR. MULLER: Did the forest industry jobs
18 include southern Ontario jobs?

19 MR. COSMAN: The area of the undertaking?

20 DR. MULLER: The area of the undertaking
21 only.

22 Q. Yes. I have no quarrel with the
23 proposition that a change in output of wood which
24 effects the so-called economic rents being earned by
25 factors of production outside of the logging industry

1 should be analysed, including an analysis of the impact
2 of those affected groups.

3 So that if you tell me, as you are, that
4 there is a linkage between pulp and paper mill
5 employment and logging employment, so that if I reduce
6 the output of wood I may be reducing the amount of
7 employment in pulp and paper and then you tell me that
8 people in the pulp and paper industry are earning
9 somewhat more than they could earn in their next best
10 alternatives occupation, I have no trouble at all in
11 saying that's an appropriate item to consider in a
12 social cost/benefit analysis.

13 MR. COSMAN: Q. All right. So in a
14 social cost/benefit analysis, the crux is that you are
15 comparing alternatives and their implications?

16 DR. MULLER: A. That's true.

17 Q. Now, I want to go back to a question
18 from -- a comment and question from the Board earlier.

19 Perhaps just as an introduction to that,
20 do you agree, Professor Muller, that if you lose high
21 quality mills jobs and people don't have alternatives
22 that this must be taken into account in a social
23 cost/benefit analysis?

24 A. That, of course, is a hypothetical
25 question.

1 Q. Yes.

2 A. Yes.

3 Q. All right. And you were talking
4 about transference of assets in your discussion the
5 other day and I am going to suggest to you that if a
6 house stands empty or a school stands empty and you
7 have to replace it elsewhere, that's not just the
8 transfer of an asset for equal value, that's a loss, a
9 public loss.

10 For example, you will have to use lumber,
11 lay sewer pipe when you would have otherwise have a
12 perfectly good house or a perfectly good school in a
13 northern community that would effectively be standing
14 empty?

15 A. With the proviso that I will phrase
16 it just a touch differently; namely, that the cost of
17 providing -- the marginal cost of providing educational
18 services is lowest if you provide it in a community
19 where the infrastructure is already in place than if
20 you have to expand the infrastructure in some other
21 place. I'd agree with you.

22 Q. The money that society has to spend
23 on the new house, the new sewer and the new school, you
24 still have to run the school system, but you would have
25 to build the infrastructure somewhere else and that

1 money, I would suggest, using your language from the
2 other day, would not be able to meet other provincial
3 objectives?

4 A. We mustn't get completely mixed up
5 between distributional issues and allocative issues;
6 that is to say, I think implicit in your question is
7 the statement that the provincial government is funding
8 the --

9 Q. Certainly the building of the
10 house -- certainly the building of the school.

11 A. Of the schools. As you know, the
12 provincial government is busy devolving its
13 responsibilities.

14 Q. Trying to. I guess the bottom line
15 in respect to Mr. Martel's point from the other day,
16 Mr. Martel referred to fact that there is a lost job in
17 the house and I am suggesting that society has lost
18 too, and you are agreeing to the extent that there is a
19 marginal -- you agree that the cost of running the
20 school system elsewhere is still going to be there, but
21 the cost of that new school is going to be a public
22 loss?

23 A. Yes, I agree that those
24 considerations are important -- are correct in
25 principle and might appropriately be taken into account

1 if you are talking about large changes in employment.

2 Q. Okay. Now, Dr. Morrison, I want to
3 go to your section of the report, Chapter 6, which
4 deals with provincial economic issues and I want to ask
5 you, first of all, to go to page 160.

6 You make a reference in the second
7 paragraph on -- you are talking about the issue of
8 provincial subsidies and in the second paragraph you
9 say:

10 "There may be some rent captured through
11 corporate tax..." and then I think the
12 numbers that you have in that particular paragraph are
13 only in respect of the logging sector, not in respect
14 of the secondary industry sector; is that right?

15 DR. MORRISON: A. I would need to check
16 the figures again.

17 Q. I suggest to you that's true, but
18 subject to you checking them my point is that in the
19 following paragraph -- okay. I guess what I am saying
20 is if you haven't taken into -- let me start again, I'm
21 sorry.

22 You say in the following paragraph:

23 "The figures strongly suggest that the
24 provincial government is subsidizing
25 timber management in Ontario..." but

1 quite fairly you don't state that as a final
2 conclusion. You go on to say:

3 "A more detail analysis is required to
4 evaluate this point conclusively. An
5 analysis would include indirect benefits
6 after appropriate assessment of
7 opportunity costs, economic rent passed
8 on to the consumers of timber or are
9 captured by workers of the forest
10 industry that may be partially covered
11 through taxation and the net change in
12 the value of the province's assets as a
13 result of timber management activity is
14 its ability to produce other goods and
15 services."

16 You are saying that more analysis is
17 required to state that conclusion in any final way and
18 that you have not done that analysis, not included it
19 in your report?

20 A. That's correct.

21 Q. All right. Now page 165. This whole
22 section seems to be designed to show that forest
23 industry, as you defined it, doesn't contribute very
24 much to a number of things: regional development or
25 community stability and other things and I am taking

1 issue with a lot of those statements.

2 I will, first of all, deal with the
3 statement on page 165 that deals with the decline in
4 employment. You specify certain declines in employment
5 in the population in the north and in the Ontario
6 forest sector and in the last statement of that
7 paragraph you say:

8 "These data are inconsistent with any
9 notion of community stability."

10 Now, first of all with respect to decline
11 in employment. I am going to suggest to you, sir, that
12 the move towards greater efficiency and reduced labour
13 per unit of output produced is commonplace throughout
14 the provincial economy and indeed the economy of the
15 world; isn't that fair?

16 DR. MORRISON: A. Certainly for capital
17 intensive industries, that's fair.

18 Q. And, in fact, the reason for this
19 reduced employment in capital intensive industries and
20 in, I suggest, most industries is a result of
21 mechanization and hard levels of productivity in an
22 every increasingly competitive world?

23 A. Based on the information that I have
24 reviewed, in fact it is an increase in what we would
25 call the labour productivity which is the productivity

1 per worker employed.

2 Q. Right.

3 A. But that, in fact -- if I remember
4 correctly based on a study that was done in the mid
5 80's, there has just been a very marginal change in
6 total productivity for the forest industries in Canada.

7 Q. There has been a higher level of
8 productivity but the level of employment is down?

9 A. There has been higher production in
10 the forest industry in Ontario and in Canada.

11 Q. I am just interested in labour
12 productivity.

13 A. Labour productivity has been
14 increasing, yes.

15 Q. And in that there has been generally,
16 as you agreed, in capital intensive industries a
17 decline in employment and an increase in productivity
18 for the reasons that you gave and you agreed with, I
19 suggest to you that there is nothing unique to the
20 forest industry in this regard and nothing to -- there
21 is no way you should tar it in a different fashion;
22 it's a recognition of the internationally competitive
23 environment in which we operate?

24 A. It's quite true that the same
25 situation has been faced in Sudbury where they have had

1 major increases in labour productivity with resultant
2 drops in employment.

3 Q. But then you draw the conclusion at
4 the end of the paragraph that this is inconsistent --
5 these declines are inconsistent of any notion of
6 community stability, and I am suggesting to you that
7 there is no evidence that there would be greater
8 community stability without the forest industry.

9 Do you have any evidence that there would
10 be greater community stability in the north if the
11 forest industry weren't there?

12 A. I have no evidence on that one way or
13 the other.

14 Q. Well, how can you say these data are
15 inconsistent with any notion of community stability?

16 A. Well, I was simply making the point
17 that if in fact you have a declining population you do
18 not have a stable community.

19 Q. That's the point that you make. So
20 to the extent that the population has declined and is
21 declining in any area where capital intensive
22 industries are operating, then you are saying that by
23 definition means a community is unstable?

24 A. Well, the way I would interpret those
25 population declines is that in northern Ontario the

1 industries which dominate are largely extractive
2 industries which tend to be increasingly capital
3 intensive and tend to be increasingly employing fewer
4 and fewer people.

5 If other industries were established in
6 the north or if other kinds of means of employment were
7 established in the north, then those might provide a
8 more -- that might provide a better basis for a stable
9 community.

10 Q. We will come to alternatives and
11 diversified economy in the north in a moment, but I am
12 going to suggest to you and the question is, if the
13 forest industry in the area of the undertaking is
14 weakened or removed would the communities of northern
15 Ontario be weakened or improved?

16 A. Weakened or improved for the
17 communities?

18 Q. Community stability.

19 A. Perhaps you could repeat the
20 question? There seemed to be a contradiction there for
21 me.

22 Q. All right. There seems to be a
23 suggestion or implicit -- something implied in your
24 statement that because of the forest industry's
25 presence in northern communities the communities are

1 unstable.

2 I am suggesting to you, unless you
3 consider that perhaps a ghost town is a stable
4 community, that the presence of the forest industry in
5 the area of the undertaking does not weaken the
6 stability of the communities in the area of the
7 undertaking?

8 A. Well, as I've argue in my
9 evidence-in-chief, in fact I think that's not true.
10 Perhaps I will just reiterate those points.

11 The forest industry is subject to the
12 business cycle, its subject to --

13 Q. As are other industries?

14 A. That's right. It is highly dependent
15 on a foreign export market which, as we have seen over
16 the last decade, has introduced a number of shocks to
17 the forest industry in Ontario and in Canada, and it is
18 also, as we have just been discussing, a capital
19 intensive, an increasingly capital intensive industry,
20 especially in the manufacturing areas, with the
21 consequence that total employment is, at least not a
22 per cubic metre of wood harvested, is declining.

23 Q. Well, which communities would be more
24 stable if the forest industry was weakened or removed?

25 Are you familiar with Mr. Watson's

1 detailed analysis of this particular issue?

2 A. I reviewed it about a year ago. I
3 don't remember the details at this point.

4 Q. Maybe you can tell us from your own
5 analysis what communities would be more stable if the
6 forest industry weren't there?

7 DR. MULLER: A. While you are thinking
8 of which communities are involved, I would like to
9 amplify the lesson that I think -- or the meaning that
10 I read into these lines that you are discussing.

11 The meaning I read into these is that
12 increasing productivity, increasing labour productivity
13 in the forest industry coupled with what cannot
14 ultimately be a rising volume of wood means that
15 workers in the industry are going to be losing their
16 jobs. So that we can expect over time a declining
17 employment in the forest industry simply as a result of
18 this increasing labour productivity which you went to
19 some length to indicate you approved of.

20 The point -- I don't think that it is
21 conventional under such circumstances to compensate
22 the workers who have lost their jobs, for the loss of
23 their house or the fact that they have to move
24 somewhere else.

25 I think that the point that we are trying

1 to make in this analysis is that it is certainly going
2 to be true that employment is going to be lost in the
3 forest industry over the next number of years and that
4 any changes due to improved attention to environmental
5 effects are likely to be -- I think they are only
6 likely to be small compared to these other things, and
7 certainly it is only the difference between these
8 effects, these declines that you will see anyway than
9 the declines that you would see under altered terms and
10 conditions which is relevant to the choice of the best
11 forest management.

12 Q. Well, back to my question, Dr.
13 Morrison.

14 DR. MORRISON: A. If you simply pose the
15 question as -- you could put it either way. What
16 communities would be better off with a forest industry
17 component or what communities would suffer with the
18 loss of a forest industry components. I mean --

19 Q. Talk the real world. Let's talk
20 about the communities that are there. What communities
21 would be better off without the forest industry?

22 A. Well, I can't name specific
23 communities, but the principle would be those
24 communities which have other industries which are being
25 negatively affected by timber management activities or

1 for which there is a potential for other kinds of
2 opportunities with that labour and with that capital.

3 MR. MARTEL: See, there is a problem that
4 we are also leaving out and I don't know if you looked
5 at it when you did your study.

6 The overall population is declining in
7 the north and the irony of the north of course is the
8 age population, the demographics get older because
9 young people are forced to leave the north; they can't
10 get a job. The people employed in industry continue to
11 get older. Probably have some of the highest age
12 levels in industry probably anywhere in Ontario are in
13 the extractive industries in the north with the
14 tremendous outflow after paying for education of kids
15 because they can't find a job anywhere, particularly
16 young women. It is bad enough for a man who might get
17 into forestry or mining or something or a profession,
18 but young women are just totally shot.

19 That's part of the equation on the
20 economy of the north that nobody ever talks about and
21 those economic factors that you extract and you extract
22 and you put nothing back in and, in fact, you extract
23 the kids.

24 Where do you see any solutions emanating
25 from anywhere really to resolve that dilemma which is

1 the future of northern Ontario in any study that you
2 have looked at? Are those factors taken into
3 consideration?

4 DR. MORRISON: They are taken into
5 consideration, yes. The study which I quoted from the
6 other day which I guess Michelle was going to see --
7 Ms. Swenarchuk was going to see whether it had been
8 filed as an exhibit or not, is a report which examines
9 communities dependent on resources in the north and
10 makes a number of recommendations, and if I remember
11 correctly it makes some recommendations about that
12 particular -- about the way that that particular point
13 could be addressed.

14 MR. COSMAN: Q. So, Dr. Morrison, my
15 question is what communities would be better off
16 without the forest industry.

17 You are not able to name any, but gave a
18 theoretical example. You said, one, those -- and you
19 are talking about alternatives. Those where other
20 industries which are negatively affected by the forest
21 industry might be better off without it.

22 I would like to hear which ones you say
23 fall into that category; and, secondly, the other
24 alternative is where another industry might come in and
25 replace it.

1 I suggest to you, sir, and this is the
2 reality of north as compared to an economic,
3 theoretical model, there are no such industries.

4 DR. MORRISON: A. If that's your
5 suggestion, then the future of the north is very bleak
6 indeed.

7 MR. MARTEL: You have just put your
8 finger on it.

9 MR. COSMAN: Q. So then I come back to
10 my question. You criticized or you have made the point
11 that forest industry communities are unstable.

12 My question is, how stable would any of
13 these communities be without the forest industry?

14 DR. MORRISON: A. Well, what your
15 question amounts to is how stable would any community
16 would be if it lost its major employer.

17 Q. Exactly.

18 A. The answer is, at least in the short
19 term, less stable.

20 Q. Let's go to the next point at page
21 106 and I hope I am pre-empting Mr. Freidin on this
22 because the red queen jumps out off the page.

23 DR. MULLER: Which page are we on?

24 MR. COSMAN: Page 166, last paragraph.

25 MS. SWENARCHUK: He hasn't figured out

1 what page it jumps out of.

2 MR. COSMAN: My page was not from Through
3 the Looking Glass, it was from the witness statement.

4 Q. The last paragraph.

5 "Industry evidence has demonstrated that
6 productivity has increased faster than
7 wages. While this trend is combined with
8 the decline in employment per unit of
9 volume harvested, the net result is an
10 average decline in contribution to total
11 community payrolls by forest industries.
12 This trend leads northern communities
13 into the same problems faced by the red
14 queen in Alice in Wonderland, they must
15 run faster and faster just to stay in the
16 same place."

17 Now, I am going to suggest to you that
18 the nature of the world today, commercially and
19 competitive is you have to run faster.

20 You name me any industry where you don't
21 have to run faster and faster to stay in the same place
22 in today's world? That's not a negative comment about
23 the forest industry.

24 DR. MORRISON: A. No, it's not in that
25 respect. The point I was trying to make, however, was

1 that if one is concerned about a contribution to the
2 community, then that obviously is going to be of
3 concern.

4 Q. Well, you make it sound somehow
5 exploitive or structurally unsound when it is really a
6 condition that we are all subject to. We all have to
7 be more efficient and we are required to be more
8 efficient economically and I suggest to you that this
9 is healthy and desirable?

10 A. Well, it is certainly healthy and
11 desirable from the point of view of the private firm.
12 It may not be healthy and desirable from the point of
13 view of the community inself.

14 Q. So you are saying there should be
15 higher wages? Is that the issue? I think the unions
16 are looking after that quite nicely.

17 A. That's one possibility. That's one
18 way of having a higher community payroll.

19 Q. But there is nothing unique about the
20 forest industry having to run faster and faster to stay
21 in the same place compared to other industries; is
22 there?

23 A. The point -- if you read the
24 sentence, it is the trend leads northern communities
25 into the same problem. It is not the point that it

1 leads the forest industry into the same problem.

2 Q. All right. So there is nothing
3 really negative about it, it is a fact of life in the
4 world today?

5 DR. MULLER: A. Well, it's relevant I
6 think to the discussion in that many of the comments
7 and questions that we have had seem to imply that our
8 choice is either current forest management techniques
9 and forest industry or revised forest management
10 techniques and no forest industry.

11 Q. No one is suggesting that.

12 A. Well, I'm sorry. I am glad that no
13 one is suggesting that, it is just that that's the
14 tenor it seems to me of much of the questioning and
15 it's important to remember that what we are interested
16 in is the change in employment right now and even a few
17 years down the track under the alternative management
18 schemes. If you are interested in management -- choice
19 of management schemes.

20 MADAM CHAIR: Excuse me. On that point,
21 Dr. Muller. The Board has been interested that your
22 cost/benefit analysis has focused on the idea of
23 changes in forest management vis-a-vis Forests for
24 Tomorrow's proposals.

25 Did you investigate the possibility of

1 looking at increased levels of employment as a result
2 modified harvest, or is that something that seemed to
3 you to be so unlikely that it wasn't worth pursuing?

4 MS. SWENARCHUK: They were not instructed
5 to pursue that question, Madam Chair, and that was
6 simply a matter of resources available and determining
7 what we could look it and there are innumerable other
8 subjects we wish we could have looked at, but we were
9 not able to.

10 MADAM CHAIR: So we have no evidence with
11 respect to differences of employment due to modified
12 harvest techniques?

13 DR. MULLER: We have only my speculations
14 of the other day.

15 MADAM CHAIR: And your speculations of
16 the other day were to the effect that in some places
17 you might expect to see greater employment, for
18 example, in road building if you built more roads.

19 DR. MULLER: That's correct. And also in
20 some places you might expect to see less employment and
21 the particular example was in the planting operation of
22 silviculture.

23 We suggested during those speculations
24 that the people affected the most in -- if there were a
25 reduction in seasonal employment -- sorry, in planting

1 employment, we suggested that many of the people
2 involved would be students who come from areas other
3 than northern Ontario. So that --

4 MADAM CHAIR: Well, that's an assumption,
5 that's not quite the evidence we have in front of us,
6 but...

7 DR. MULLER: Sorry. I referred to it as
8 a speculation on my part. So I can only say that
9 tracking down the precise distribution of employment
10 effects is really quite a tricky job and you have to
11 make heroic assumptions no matter what you do.

12 MR. MARTEL: Is there any vision anywhere
13 in Ontario or Canada of what we could do in all these
14 fields if we had some, as they say, vision of where we
15 wanted to take this country in terms of opportunities
16 related to forestry, you know, like producing your own
17 forestry equipment instead of importing it as we do in
18 mining, import nearly everything.

19 There doesn't seem to be any drive out
20 there to link it all altogether, not just look at
21 forestry in isolation, regeneration over here, but in
22 fact where we might go if we were to really consider
23 the whole ball of wax.

24 DR. MULLER: If I might just comment. It
25 seems to me that the terms and conditions of Forests

1 for Tomorrow are something along those lines. They are
2 saying that you can't plan for the forest industry
3 without thinking, where do you want to take the
4 province, and you can't -- my interpretation of the
5 direction of their terms and conditions is that if you
6 have to plan for forest industry which is constant with
7 the basic ecological constraints that we are faced
8 with.

9 The basic ecological constraints that we
10 are faced with appear to be that most of the forest is
11 in the north where it grows slowly and, therefore, we
12 can't have -- we can't expect to go on expanding
13 employment in this area for a long time.

14 MR. COSMAN: Q. Well, Professor Muller,
15 I think we all want a situation where the environment
16 is protected and enhanced and the forest industry is
17 able to be healthy and provide employment, but it comes
18 in that question of efficacy as to whether the terms
19 and conditions of Forests for Tomorrow, which you
20 haven't studied, established this or whether the
21 Industry's terms and conditions or other parties' terms
22 and conditions established this; doesn't it?

23 DR. MULLER: A. Yes. As far as I an an
24 economist can say, it is my opinion that careful study
25 of the allocative effects of different management

1 alternatives is an important route in making the
2 best -- to follow in making the best use of the forest.

3 Q. Last point on Chapter 6. The bottom
4 of page 168, Madam Chair.

5 In 6.8, Dr. Morrison, you say:

6 "Community stability is more likely to be
7 achieved by diversification away from
8 forest industries."

9 I would like to know, we are all holding
10 our breath, what your plan is here.

11 MR. FREIDIN: Which page, Mr. Cosman?

12 MR. COSMAN: Page 168, 6.8. Dr. Morrison
13 says:

14 "Community stability is more likely to be
15 achieved by diversifying away from forest
16 industries."

17 DR. MORRISON: That would be for
18 communities that are highly dependent on the forest
19 industry now.

20 MR. COSMAN: Q. I am suggesting to you
21 that one doesn't have to be diversifying away from the
22 forest industry.

23 In the many communities that are
24 dependent on it, you would think you would want to
25 build on it and in the other communities that are not

1 relying on the forest industry and don't have the
2 benefits of it, among other things they would be
3 seeking to diversify towards that industry.

4 But if you have any suggestions, real
5 suggestions, other than theoretical possibilities, as
6 to what the alternatives are -- and it is not my time
7 to respond to Mr. Martel's question because I think we
8 have a vision, but I am asking you what are those
9 alternatives?

10 What is your plan to achieve community
11 stability by diversifying away from the forest
12 industries rather than building on them from an
13 economic perspective? You are an economist -- I'm
14 sorry, you are an economic analyst.

15 MR. MARTEL: Do you say that for the
16 following reason: That if there is a downside and a
17 layoff, if you had other types of economies or other
18 types of opportunities, then the effects in the
19 community would not be nearly as great?

20 In other words, if you didn't rely as
21 much on mining in Sudbury and you could diversify
22 towards other things, then in the event that
23 something -- you know, let's say in some other country
24 where we have no control, a layoff, you know, you cut
25 back production and with the cut back in production if

1 you have got other jobs then the impact on the
2 community isn't nearly as great.

3 DR. MORRISON: I think that's exactly the
4 point and virtually -- the literature is virtually
5 unanimous on that point, that diversification is viewed
6 as a way of reducing the negatives effects of those
7 kind of downsides.

8 Given that the forest industry is subject
9 to the kinds of shocks and subject to the kinds of
10 cycles that I have discussed, I would suggest that a
11 community ought to be very careful about, say,
12 establishing a new saw mill, in particular given the
13 present state of the saw milling industry in Ontario.

14 There are probably some circumstances
15 under which a community may choose to establish a saw
16 mill or a pulp and paper mill in their community as a
17 way of having another source of employment, but if that
18 community is making that sort of decision I would
19 encourage them to consider the alternatives very, very
20 carefully.

21 MR. COSMAN: Q. Dr. Morrison, I don't
22 think there is anybody in this room, certainly not my
23 clients, who disagree that community stability would be
24 increased by diversification. That is not the issue.

25 The issue in a real world in northern

1 Ontario is how do you do it, and I am asking you if you
2 have any evidence for the Board as to how -- have you
3 studied the diversification -- of the alternatives for
4 diversification in northern Ontario?

5 DR. MORRISON: A. Not in a great deal of
6 detail, but I read what literature seems to be
7 available on that subject.

8 Q. What alternatives do you suggest to
9 the industry that's there?

10 A. Well, the diversification that
11 communities might try to achieve would be
12 diversification in areas related to the forest
13 industry, trying to provide -- increase the level of
14 goods and services that they provide to that, to the
15 forest industry. That's probably not a good way to go
16 if you want to enhance your employment stability.

17 Q. I don't want theoretical
18 possibilities. I want, and I realize you haven't
19 studied it, real alternatives.

20 DR. MULLER: A. Can I suggest one real
21 alternative which probably would not recreate huge
22 amounts of employment, but one real alternative for a
23 small community near a large unopened wilderness area
24 would be to promote that area for wilderness
25 recreation, ensuring that the cost of admission to that

1 wilderness recreation area was sufficiently high to
2 cover the true willingness to pay of people who will go
3 there. I think that the price of a high priced hotel
4 is probably a floor estimate of what some people would
5 be willing to pay for travel in a true wilderness area.

6 Now, I haven't made a study of the
7 ability of particular areas of the forest to conduct
8 this kind of activity, but one substitute activity for
9 forestry would be a carefully and appropriately managed
10 tourism industry.

11 I think that you would have to compare
12 that in terms of total volumes of jobs and total
13 revenues earned, stability of jobs and so forth, but
14 you want a specific example, there is a specific
15 example.

16 Q. You haven't studied it, sir, so I am
17 not going to get into what could be a fairly lengthy
18 cross-examination on that point.

19 MADAM CHAIR: Thank you. I think we will
20 take our break now, Mr. Cosman.

21 MR. COSMAN: I can tell you, Madam Chair,
22 that I have just one line of questions with respect to
23 the case study and one short question after the break.

24 MADAM CHAIR: Thank you, Mr. Cosman.

25 I might inform Dr. Muller, if he hasn't

1 been informed by his client, that the Board is going to
2 be receiving evidence from the Northern Ontario Tourist
3 Outfitters and I think we will be receiving a rather
4 great deal of evidence about the tourism industry in
5 northern Ontario.

6 DR. MULLER: I see.

7 MADAM CHAIR: Thank you.

8 ---Recess at 2:45 p.m.

9 ---On resuming at 3:00 p.m.

10 MADAM CHAIR: Please be seated.

11 MR. COSMAN: Q. Thank you, Madam Chair.

12 Q. Gentlemen, before dealing with
13 simpler cost/benefit analysis models, I would like to
14 touch briefly on the complicated one that is referred
15 to in which the Board has some passing reference to
16 called FORPLAN, which we understand will be the subject
17 of some evidence in Panel 10.

18 Page 128. At the top of the page you
19 say:

20 "Sophisticated cost/benefit analysis can
21 be implemented using linear
22 programming models such as FORPLAN, but
23 this may be very expensive."

24 And you say, it is not very long:

25 "Elaborate management tools exist which

1 can get applied to the calculation of the
2 net social benefit of the project
3 and its alternatives, but the use of such
4 tools may be inappropriate if the expense
5 of gathering and processing the
6 information is too great."

7 Nowhere in your report here are you
8 recommending that FORPLAN be adopted, but my question
9 simply to you is, as economists and economic analysts:
10 Have you studied what the expense would be for Ontario
11 implementing a FORPLAN system?

12 DR. MULLER: A. I have not.

13 DR. MORRISON: A. I haven't studied it,
14 but I know that the -- I believe Province of Alberta
15 has set up FORPLAN on a trial basis. I'm not sure what
16 costs have been associated with that.

17 Q. The answer is, you haven't studied it
18 and you don't know what the cost would be for Ontario?

19 A. No, but -- no.

20 Q. Thank you. I would like to ask
21 Professor Muller to turn to his case study and, first
22 of all, I want to deal with some terminology on a
23 conceptual level.

24 The Board has had various studies in
25 evidence which have been called case studies and these

1 have been --

2 MADAM CHAIR: Which page is that, Mr.
3 Cosman?

4 MR. COSMAN: It is Chapter 5, but I am
5 not going to be dealing with a specific page just yet.

6 Q. So the Board has been dealing with
7 case studies in its evidence and the case studies that
8 the Board has had in two Panel 2 and in other panels of
9 the Industry case have been real cases tied to a
10 specific piece of land. There have been studies of
11 what happens on that specific piece much and different
12 alternatives and certain conclusions are drawn.

13 Now, you use the word case study, but it
14 is a different kind of case study. It is a
15 hypothetical; is it not?

16 DR. MULLER: A. Absolutely correct. I
17 presented this simply to try to -- well, not simply.
18 One of the main reasons for presenting this was to
19 provide some concrete example of what I meant by
20 cost/benefit analysis.

21 Q. It is not tied to or represents any
22 forest management unit? You say that?

23 A. That's correct.

24 Q. You also say, I believe, that to
25 really do a case study of the kind that you are

1 proposing in this simple model you would have to
2 actually look at a specific unit?

3 A. I think it will be highly desirable
4 to try to work through the same kind of exercise using
5 data from the particular unit.

6 Q. What you have done is prepare a
7 hypothetical and you have set out your assumptions and
8 those assumptions come from a number of different
9 sources. There is data from the literature, a phone
10 call to Canadian Pacific, there is some illustrative
11 figures.

12 You say in your evidence that, for
13 example, I have no idea of what the right numbers for
14 the operating costs of recreation are, but you put a
15 number in as a place maker. That is how you put it?

16 A. That's correct.

17 Q. That was I think the poor guy is
18 working for \$25,000 a year in recreation?

19 A. That's right.

20 Q. All right.

21 MR. COSMAN: That was \$100,000, Madam
22 Chair.

23 Q. Now, this creates a problem for me
24 and let me tell you why. Either you have, I would
25 suggest, a hypothetical like your potatoes and corn

1 hypothetical where you can't draw any conclusions as to
2 whether it is really better to grow potatoes or corn,
3 or you have a real case study where the conclusions can
4 mean something because it is tied to a real piece of
5 real estate and a real set of assumptions, but what you
6 asked the Board to do - and maybe you haven't - you
7 seem to be asking the Board to draw conclusions from
8 your hypothetical which is something, as you know, that
9 is not done.

10 A. I am asking the Board to draw some
11 conclusions from my hypothetical case study and they're
12 conclusions that can be taken primary from the
13 sensitivity analysis to figure out what seemed to be
14 the most important factors driving the choice between
15 alternative cutting techniques.

16 I don't think that this is very different
17 from other analyses of the type that Professor Benson
18 published, for example, in which you just look at the
19 cost per hectare of operating in a particular kind --
20 in a particular kind of management technique.

21 I believe that the numbers are
22 sufficiently representative to give you a feeling for
23 the basic forces at work.

24 Q. Well, because that is your evidence,
25 I am going to have to take you through it a little bit,

1 but let me start by asking the Board to turn to the
2 list of assumptions on page 191.

3 First of all, you have got 44 assumptions
4 set out there.

5 A. No, actually at least five of them
6 are derived from the previous assumptions.

7 Q. Yes. And I think you made it very
8 clear this is a simple model, there are lots of things
9 that aren't included like maintenance of roads?

10 A. That's correct.

11 Q. In a real case study based on a real
12 FMU you would have to consider all relevant factors and
13 not a partial list of factors I suggest to you?

14 A. You could probably never include all
15 factors that might be relevant. You would have to draw
16 a line somewhere, but I agree with you that you would
17 have to include more than I have here.

18 Q. You certainly have to include more
19 than you have there. So you agree with me there and,
20 therefore, that if you included the extra ones that
21 perhaps should have been included - and I am not
22 criticizing you because it is a hypothetical - then the
23 results may be different, the conclusions may be
24 different? Doesn't that follow?

25 A. Well, let me put it this way. The

1 precise comparison of the net present value of the
2 alternative cutting management schemes under various
3 scenarios might easily change. In fact, they almost
4 certainly would.

5 Results such as the sensitivity of your
6 decision to interest rates I think would probably not
7 change. Results such as the fact that intensive
8 management has, relatively speaking, the highest
9 present value when the value of the wood is high and
10 that extensive management has a higher present value
11 when the value of the wood is low, that kind of
12 conclusion I think is robust.

13 Q. All right. Let's just see how you
14 selected some of your data. I would ask the Board on
15 page 191 to look at Item 15.

16 I know what your evidence was in terms of
17 sensitivity analysis, but if you look down that list
18 you will see the price at the mill was \$25 and that was
19 a rounded quote that you received from someone on the
20 phone from Canadian Pacific Forest Products in relation
21 to one of their units somewhere?

22 A. Well, to be precise, I think I
23 answered this in an interrogatory. Would you like me
24 to...

25 Q. If you feel it's necessary, but I

1 mean this is information you got on the phone?

2 A. Basically I phoned up the wood
3 purchasing section and I asked what they were paying
4 for black spruce and they told me.

5 Q. Then under No. 7, if you go up a bit,
6 you have haulage costs per cubic metre per kilometre
7 and you have seven cents?

8 A. That's right.

9 Q. So if the Board would just perhaps
10 write down \$25 being the price at the mill, you have a
11 100 kilometers, so that comes to \$7 on that assumption
12 for haulage costs which would give you a price at the
13 roadside of \$18? Simply subtraction.

14 A. That's right.

15 Q. And then if you look at page 194,
16 Table 3, No. 6, that's the price of the roadside,
17 that's taken forward from the other list?

18 A. That's correct.

19 Q. And if you take your logging cost
20 assumption No. 8, logging costs per cubic metre \$18.50.

21 So under this assumption which produced
22 some text and some diagrams, it cost \$18.50 to produce
23 lumber that would be worth \$18 at the roadside; in
24 other words, every time you cut down a tree the
25 operator here would lose money?

1 A. That's correct.

2 Q. So I suggest to you that such a
3 scenario, even apart from all of the other assumptions,
4 is absurd?

5 A. Well, I don't think it is absurd
6 because it was the implication of the numbers that I
7 got.

8 I pointed out to the Board that it was
9 not a surprising result when I presented this material
10 and I pointed out to the Board that consequently the
11 remainder of the analysis would be conducted at a
12 higher price of wood, but I think it is an interesting
13 fact that if you take these numbers and put them
14 together from the various sources you wind up with a
15 first cut in which it is not worth harvesting the wood.

16 Q. I suggest to you, because it is a
17 hypothetical and because you picked here and there to
18 get that data the hypothetical you put together, which
19 suggests that some operators are going to spend \$18.50
20 to produce wood that the mill is going to pay \$18 for,
21 is absolutely absurd, wouldn't be done and it doesn't
22 prove a thing. It is just a failure in the numbers.

23 Of course it leads inevitably to the
24 conclusion that it is always going to be too costly and
25 you would never have a net present -- NPV in favour of

1 the industry in this kind of scenario because it cost
2 \$18.50 to produce \$18 worth of wood?

3 A. Well, Mr. Cosman, that I think was
4 exactly the conclusion that I drew, that there may
5 easily be areas of the province in which it doesn't pay
6 to harvest the wood for commercial timber purposes.

7 Q. You are not saying that there is, you
8 are saying may be. This isn't proving anything; it's a
9 number of different pieces of data from different
10 sources, which then it becomes the subject of text and
11 charts in here and one on the overhead under the \$25
12 scenario.

13 I mean, you have not done a study of any
14 particular FMU where some operator is spending \$18.50
15 in order to produce \$18 -- in order to get \$18 back?

16 A. No, I have not done that.

17 Q. And because you are not dealing with
18 a real piece of real estate or a real FMU, it is not
19 surprising that you take different figures from
20 different sources for illustration or otherwise that
21 you are going to get some skewed results, but it's
22 asking the Board to rely upon the conclusions that
23 creates my difficulty.

24 Let me ask you another set of questions.
25 You said the assumptions are made for the purpose of

1 simplicity, they are susceptible to modification if you
2 wish. Now, we have seen the modification of two of
3 your assumptions --

4 A. Excuse me, which assumptions are you
5 referring to? Could you refer me to the page just
6 so...

7 Q. I thought this was from your
8 evidence.

9 A. Oh, from my evidence. Okay, yes.

10 Q. And we had some major changes in your
11 assumptions in the course of your evidence. I mean,
12 you have the -- well, \$25 to \$50?

13 A. And on to \$75.

14 Q. And on to \$75. Then, again, in your
15 evidence you took average hunters days and I think you
16 said it was down played by 10 times. You averaged
17 wrong or...

18 A. That was -- I admitted that was an
19 error in transcribing it.

20 Q. Okay. I am going to suggest to you
21 that in any hypothetical, if you modify the assumption
22 and if you have not done the kind of analysis that's
23 required to establish the validity of the assumptions,
24 then if you change the assumptions you can change the
25 conclusions? Put it this way --

1 A. I think it goes almost without saying
2 one's conclusions depends on one's assumptions.

3 Q. Right. One cannot be satisfied that
4 conclusions are appropriate unless satisfied that the
5 assumptions are appropriate?

6 A. That's true, and you must presumably
7 judge that in terms of what the conclusions are.

8 Q. So if you do a model where, for
9 example, you don't deal with the efficacy of natural
10 regeneration on different sites, that's not built into
11 the model, where that factor is not a part of your
12 scenario, where you assume natural regeneration -- you
13 assumed certain results?

14 A. I assumed a certain relationship
15 between the yield on naturally regenerated sites and
16 artificially regenerated sites, yes.

17 Q. And in the real world where in an FMU
18 there may be different kinds of silvicultural regimes
19 used and where there is strongest disagreement between
20 the parties on what the results would be in different
21 scenarios, that would play a part in any real
22 cost/benefit analysis that would be done?

23 A. I think it is clear that your
24 judgment about yields and maybe even, as Mr. Hanna
25 would have it, a probability distribution over yields

1 would be useful.

2 Q. For example, your no-cut scenario
3 assumes no fire protection or insect protection I think
4 as well forever, and yet people enjoy recreational
5 opportunities forever.

6 I think in a real case study you would
7 have to feature in the likelihood that such a forest
8 would become diseased and burned over a rotation
9 period?

10 A. Well, yes and you would also have to
11 ask yourself how much that would affect recreational
12 activities of various kinds, but I will remind you that
13 most of the conclusions that I drew from the case study
14 had to do with the timber values rather than the
15 recreational values.

16 Q. And if I could say that, I am
17 instructed that there is no way that one can draw
18 conclusions in which confidence can be placed as a
19 result of your hypothetical and your analysis here from
20 a real timber management perspective. Do you disagree
21 with that?

22 A. I do.

23 Q. I am suggesting to the Board that the
24 Board should not be acting upon the so-called
25 conclusions of your hypothetical.

1 Are you suggesting that the Board should
2 act upon the conclusions of your hypothetical, not as
3 an illustrative model for CBA but whether they should
4 be acting upon your conclusions?

5 A. I think that the conclusion --
6 perhaps you would allow me a moment to refer to the
7 overhead I had with my conclusions on it.

8 The conclusions are on sensitivity tests.
9 For this case study, alternative B dominates C except
10 at very low interest rate, very high mill price and
11 very highly yield.

12 I would hold that the conclusion that
13 modified cutting and natural regeneration techniques
14 are most competitive at medium interest rates, low mill
15 prices and low yields is a conclusion that is robust in
16 my model and substantiated elsewhere in the literature
17 and I would feel that that's a conclusion that one can
18 continue to draw.

19 Whether alternative B actually outranks
20 alternative C, because in a number of cases they came
21 out quite close, would be a matter which could easily
22 change as you refine the estimates more.

23 The second conclusion I came to on the
24 sensitivity tests was that the main advantage of
25 alternative C is a shorter rotation period. I think

1 that that is a conclusion that I feel is consistent
2 with other studies and one that you can appropriately
3 draw.

4 Q. You are saying that you are relying
5 on what you read elsewhere in an area of which you have
6 no expertise?

7 A. I have a lot of expertise in knowing
8 that when you cut something down faster the present
9 value is higher.

10 Q. You have indicated to the Board that
11 you don't pretend to be a forest --

12 A. But I am an economist and I know that
13 the present value of a benefit which is received in a
14 short period of time is higher than the present value
15 for a benefit which is received a long time from now.

16 Q. All right. In any event, I take it
17 that we just disagree and I am suggesting to you that
18 the only way that the Board can be satisfied and draw a
19 conclusion that would appropriate is if a real scenario
20 tied to a real piece of real estate were involved?

21 I suggest to you, for example, that on
22 hunting days you chose a number, but the actual hunting
23 days that would be appropriate will differ depending on
24 where populations are, what the moose population is and
25 all other factors? You just took an average.

1 A. You see, that's precisely the point
2 that I was trying to make in the witness statement,
3 that this kind of analysis is practical at the forest
4 management unit level.

5 It's likely that the decisions are going
6 to be different depending on which forest management
7 unit you are dealing with and what the specific
8 conditions of that forest management unit are, and so
9 that it doesn't to my mind make a lot of sense to say
10 that you are going to assess at the level of the entire
11 province, you are going to prejudge as to what the best
12 forest management technique everywhere is.

13 Q. Maybe in the end we will just agree
14 to disagree.

15 I would suggest that you would have to
16 take those additional factors into account that you
17 said -- when you said you would have to take more
18 factors into account and you would have to tie it to a
19 real scenario before you can ask the Board to draw
20 conclusions?

21 A. Can I just add or finish by stating
22 that under the conditions which I have just sketched
23 out, the results of one particular case study should
24 not be sufficient to make a province-wide conclusion.
25 Okay?

1 Q. Thank you for that. Your conclusion
2 would be appropriate for this hypothetical unit?

3 A. Pardon?

4 Q. The conclusions that you came to are
5 appropriate for the hypothetical unit that you
6 described?

7 A. The quantitative conclusions are
8 appropriate for the hypothetical unit.

9 Q. all right.

10 A. The process conclusions are
11 applicable, I think, to the possibility of applying
12 this kind of analysis as part of Ontario's
13 environmental assessment procedure.

14 DR. MORRISON: A. I think perhaps there
15 is an additional point that may need to be made and
16 that is, if you carried out a cost/benefit analysis on
17 a particular real piece of real estate, a particular
18 forest management unit, you may have difficulty drawing
19 conclusions about a provincially appropriate strategy
20 for managing the forest.

21 My understanding of Professor Muller's
22 case study is that he specifically chose one that would
23 be more or less representative in an effort to draw
24 some more general conclusions than you perhaps could
25 draw from a case study tied to a specific piece of real

1 estate.

2 Q. All right. Perhaps I can finish in
3 this sense and talk about cost/benefit analyses in
4 general.

5 I am going to suggest that four tests are
6 appropriate before the Board should make a cost/benefit
7 analysis mandatory and I am going to suggest that they
8 have not been met; that is, mandatory as a requirement
9 in all cases in timber management planning.

10 First of all, I am going to suggest that
11 the Board must be satisfied that a cost/benefit
12 analysis is necessary in all units to lead to better
13 timber management; secondly, that it is workable, and
14 just let me define that for you, that there must be
15 agreement on key assumptions; thirdly, that it is not
16 unreasonably expensive or time consuming; and fourthly,
17 that it will project the interests of the people living
18 in the area of the undertaking.

19 Perhaps with respect to -- I would ask
20 you whether you agree those tests need to be met, but
21 first of all with respect to the second one, its
22 workability, whether it be a simple model such as your
23 illustrative model or computer FORPLAN model, do you
24 agree there must be agreement on key assumptions for a
25 cost/benefit analysis to work; that is, on what is the

1 effectiveness of natural regeneration?

2 A. Agreement among whom?

3 Q. Of the parties who are going to rely
4 on it.

5 A. I don't fully agree because I think
6 it's conceivable that a wide range of assumptions might
7 lead to the same conclusion, but...

8 Q. Okay. For example, willingness to
9 pay for the value of wilderness that you don't ever
10 intend to visit, if someone thinks that's important,
11 someone else thinks that's not and they are people
12 living in the area of the undertaking on the unit
13 affected, would that be something that there would have
14 to be agreement on, or would you have some economist
15 working in the head office telling people what the
16 results mean in that kind of case?

17 A. Well, I think it is incumbent on the
18 provincial government to try to develop some estimates
19 of marginal willingness to pay for increased areas
20 devoted to things like wilderness and old growth forest
21 and so forth. Also, willingness to pay for harvesting
22 in a so-called ecologically sound way.

23 I think ultimately it would be nice to --
24 it would be good and useful to take those into account
25 at the forest management unit level.

1 I know that's only a sideways answer to
2 your question. Your question was, does there have to
3 be an agreement upon the willingness to pay for some
4 of these values when you are actually conducting the
5 analysis right now at the forest management unit level.

6 As I say, I don't think that there has to
7 be because you can legitimately impose some constraints
8 about values that you don't understand yet and because
9 I believe that there are circumstances in which a
10 fairly straightforward financial analysis would help
11 you determine that some area should be devoted to
12 timber management and some areas should not be.

13 Q. All right. And just with respect to
14 the fourth point, before I invite you to answer at
15 large, with respect to my point that a cost/benefit
16 analysis -- the Board must be satisfied that it will
17 protect the interests of the people living in the area
18 of the undertaking, I take it that the two of you
19 disagree?

20 Professor Muller, you think that the
21 willingness to pay data should not be weighted in
22 favour of the people living in the area of the
23 undertaking and, Dr. Morrison, you think it should?

24 DR. MORRISON: A. No, the way I would
25 approach the willingness to pay would be that each

1 person's survey results would be weighed equally, but
2 what I was suggesting to you and perhaps it wasn't
3 communicated clearly, was that I suspect the
4 willingness to pay of individuals living in the north,
5 because it would be potentially their livelihoods that
6 would be affected, would be greater than the
7 willingness to pay of individuals at the corner of
8 Bloor and King or whatever in southern Ontario.

9 Q. Professor Muller, do you agree that
10 with the four conditions that I set out, that the Board
11 should accept before it makes mandatory a cost/benefit
12 analysis as part of the process?

13 DR. MULLER: A. I don't really agree
14 with the forth and let me tell you why. I think that
15 without cost/benefit analyses and with our current
16 institutional structure decisions are going to be made
17 typically by the companies operating the FMAs.

18 I think that quite reasonably those
19 companies will be looking at their own private costs
20 and they will not be protecting the interests of people
21 in the area of the undertaking particularly. They will
22 be interested in protecting the interest of their
23 shareholders by and large and that's what they are
24 supposed to be doing.

25 Consequently, it doesn't seem to me to be

1 a necessary test that we should require that the
2 interests of the people in the area of the undertaking
3 be protected. I think it will be nice to protect the
4 interests of the people in the area, I think it is
5 quite possible that a properly done cost/benefit
6 analysis will, in fact, improve the interests of the
7 people in the area, but I don't think that I would
8 agree that that fourth condition is required before I
9 would recommend the adoption of cost/benefit analyses.

10 MR. MARTEL: Can I ask a question because
11 you lost me somewhere.

12 You said that you were worried that
13 without a cost/benefit analysis corporations might look
14 at its own shareholders' interests. Then wouldn't it
15 be essential to have four in as opposed to leaving it
16 out if you were interested in guaranteeing that the
17 people in the areas interests were protected.

18 DR. MULLER: All I am saying is that item
19 four -- if you are going to insist on item four for
20 cost/benefit analysis, you ought to insist on it for
21 current practice as well.

22 In other words, I don't see that that's a
23 condition which has to be applied specifically to
24 cost/benefit analysis and no other.

25 MR. COSMAN: Q. Professor Muller, I know

1 you are not - if I am wrong tell me - an expert on
2 timber management planning itself, but do you believe
3 or is it your understanding that companies under their
4 forest management agreements or company people can act
5 in unconstrained way in looking after their own
6 interests in managing the forest estate?

7 DR. MULLER: A. It is my understanding
8 that the forest management agreements specify an
9 elaborate structure of activities that they have to
10 perform. So it is true that they can't operate in a
11 total unconstrained way.

12 Q. Are you aware that plans require
13 approval of the public body and the Ministry of Natural
14 Resources?

15 A. I am not full aware of the detailed
16 process by which they were approved, but I am aware
17 that they are negotiated.

18 Q. All right. Dr. Morrison, do you have
19 anything to add? I will give you the last word.

20 DR. MORRISON: A. I would just point out
21 that with respect to item 4, if we are suggesting, and
22 we are, suggesting the use of a cost/benefit analysis
23 as an element of timber management and as an element
24 that ought to be imposed by the result of this
25 environmental assessment process, then it's incumbent

1 also that it protect the interests after all people in
2 Ontario, not just the people in the area of the
3 undertaking.

4 MR. COSMAN: Thank you very much.

5 Those are my questions, Madam Chair.

6 MADAM CHAIR: Thank you, Mr. Cosman.

7 MADAM CHAIR: Mr. Freidin, we won't ask
8 you to start today.

9 Ms. Seaborn, you are next, I'm sorry. Do
10 you have questions for the witnesses?

11 MS. SEABORN: Yes, I do.

12 MADAM CHAIR: Do you want to do it today?
13 Will you be finished --

14 MS. SEABORN: I can commence today if you
15 like or I can start on Tuesday morning. Whatever the
16 Board wishes.

17 MADAM CHAIR: How long are you going to
18 be?

19 MS. SEABORN: My estimate at the scoping
20 session was two hours. Mr. Cosman has covered a number
21 of the areas that I was going to cover in terms of
22 questions on willingness to pay, so I expect I will be
23 about an hour.

24 MADAM CHAIR: How long will you be, Mr.
25 Freidin?

1 MR. FREIDIN: I think I said one to two
2 days. That leaves me lots of time next week, so if we
3 started on Tuesday we could go to Thursday and I keep
4 the Board's comments in mind when I say that.

5 MR. MARTEL: You haven't reduced it at
6 all?

7 MR. FREIDIN: Yes. One to two days gives
8 me lots of flex.

9 MADAM CHAIR: Ms. Swenarchuk, do you know
10 long you will be in re-examination?

11 MS. SWENARCHUK: At this point I have
12 about two questions.

13 MADAM CHAIR: All right. I don't think
14 there is any point in you getting started, Ms. Seaborn,
15 unless you had exhibits or some documents you wanted to
16 file.

17 MS. SEABORN: Why don't I do that. I
18 have copies. The only thing I was going to file were
19 my interrogatory questions, so why don't I do that now
20 and then I will start off with my questions Tuesday
21 morning.

22 MS. SWENARCHUK: Madam Chair, Dr. Muller
23 is going to -- because we are not sitting Monday, he is
24 going to make some rearrangements so that he will be
25 able to be here through Wednesday.

1 MADAM CHAIR: Thank you very much, Dr.
2 Muller.

3 DR. MULLER: I just don't want to be
4 coming back the week after that.

5 MADAM CHAIR: No, that won't happen.

6 MS. SWENARCHUK: This is so that Mr.
7 Martel can go home Wednesday evening as opposed -- it
8 is not for purposes of having Mr. Freidin go into
9 Thursday.

10 MADAM CHAIR: Absolutely.

11 MR. FREIDIN: We have a session at four
12 o'clock on Wednesday I believe, the reply in argument.

13 MADAM CHAIR: Is that the 13th?

14 MR. FREIDIN: The 13th.

15 MADAM CHAIR: Yes, we do.

16 MR. FREIDIN: Just out of interest, is
17 Mr. Martel going to be able to get home on Wednesday
18 night?

19 MR. MARTEL: No, I have a meeting
20 Wednesday night in the city.

21 MADAM CHAIR: That's not an excuse, Mr.
22 Freidin.

23 MR. MARTEL: That's no reason to stretch
24 it out for nothing.

25 MR. FREIDIN: I would never stretch it

1 out for nothing, Mr. Martel.

2 MR. MARTEL: I didn't say that. I just
3 said that's no reason to do it.

4 DR. MORRISON: What time will we be
5 starting on Tuesday morning?

6 MADAM CHAIR: 10:30.

7 Ms. Seaborn?

8 MS. SEABORN: Thank you, Madam Chair. I
9 have for filing MOE's interrogatories in relation to
10 Panel 7. They are questions one 1 to 12 and it is a
11 six-page document. 1706?

12 MADAM CHAIR: That is what I think. We
13 didn't have any other exhibits today. Exhibit 1706.

14 ---EXHIBIT NO. 1706: MOE interrogatory question Nos.
15 1-12 and answers thereto (Panel
7).

16 MS. SEABORN: Other than the overheads
17 that have been filed by the witnesses, Madam Chair,
18 there are no additional exhibits that parties will
19 require for Tuesday.

20 I may be making quick reference, however,
21 to the Timber Management Planning Manual and the class
22 environmental assessment document itself.

23 MADAM CHAIR: We have those. Will there
24 be anything you will be asking the witnesses to read?

25 MS. SEABORN: No. If they bring their

1 overheads with them that will be sufficient.

2 Thank you.

3 MADAM CHAIR: All right. Thank you very
4 much.

5 Thank you, Dr. Muller and Dr. Morrison.
6 We will see you next Tuesday.

7 DR. MULLER: Tuesday at 10:30?

8 MADAM CHAIR: Yes, and thank you for
9 accommodating your schedule, Dr. Muller.

10

11

12 ---Whereupon the hearing was adjourned at 3:40 p.m., to
13 be reconvened Tuesday, February 12, 1991 commencing
14 at 10:30 a.m.

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